


Government of Republic of North Macedonia
Ministry of Finance

Environmental and Social Management Framework

Update No. 1

Public Sector Energy Efficiency Project

April 2025

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Government of Republic of North Macedonia

Ministry of Finance

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Contents

List of Abbreviations

AF Additional Funding
BAT Best Available Technologies
BAU Business as usual
CC Coordination Committee
CDM Clean Development Mechanism
CSO Civil Society Organization
DBNM Development Bank of North Macedonia
EE Energy Efficiency
EEF Energy Efficiency Fund
EHS Environment, Health and Safety
EHSS Environmental, Health & Safety, Social
EIA Environmental Impact Assessment
ERC Energy Regulatory Commission
ESA Environmental and Social Assessment
ESCP Environmental and Social Commitment Plan
ESF Environmental and Social Framework
ESIA Environmental and Social Impact Assessment
ESMF Environmental and Social Management Framework
ESMP Environmental and Social Management Plan
ESMS Environmental and Social Management System
ESS Environmental and Social Standard
EU European Union
FI Financial Intermediaries
GDP Gross Domestic Product
GHG Greenhouse gases
GoRNM Government of Republic of North Macedonia
GRM Grievance Redress Mechanism
GRS Grievance Redress Service
IBRD International Bank for Reconstruction and Development
INDC Intended Nationally Determined Contribution
IPA Instrument for Pre-Accession

IPPC Integrated Prevention and Pollution Control
LMP Labor management procedures
LSG Local Self Government
MACEF Macedonian Association for Energy Efficiency
MAFWE Ministry of Agriculture, Forestry and Water Economy
MEIC Macedonian Environmental Information Centre
MF Ministry of Finance
MoE Ministry of Economy
MoEPP Ministry of Environment and Physical Planning
MoH Ministry of Health
MSIP/MSIP2 Municipal Services Improvement Project
MTC Ministry of Transport and Communication
MVP Monitoring and Verification Procedures
NEEAP National Energy Efficiency Action Plan
NGO Non-governmental organization
NPEEPB National Program for Energy Efficiency in Public Buildings
OG Official Gazette
OHS Occupational Health and Safety
PAD Project Appraisal Document
PAP Project-affected persons
PCC Project Coordination Committee
PIU Project Implementation Unit
PM Particulate Matters
PMU Project Management Unit
PPP Purchasing power parity
PSEEP Public Sector Energy Efficiency Projec
RNM Republic of North Macedonia
SEP Stakeholder Engagement Plan
ToR Terms of Refference
WB World Bank
WBIF Western Balkans Investment Framework
WMP Waste Management Plan
ZELS Association of Units of Local-self Government

Executive Summary

1. Project objective. The Project Development Objectives are to: (i) reduce energy consumption in the municipal sector; and (ii) support the establishment and operationalization of a sustainable financing mechanism for the public sector.

The first objective will be achieved through sub-loan financing of municipal subprojects and grant financing of health facilities, while the second will be achieved through creation of National Energy Efficiency Fund that will be established in the Development Bank of North Macedonia.[1]

2. Rationale of the Proposed Project. Public Sector Energy Efficiency Project (PSEEP) derives from the Country Partnership Framework for the Republic of North Macedonia for the period January 2019 – June 2023. In Focus Area III - Sustainable Growth, planned investments in energy efficiency and renewable energy (RE) will directly contribute to the reduction of CO_2 emissions. The country aims to further develop low-carbon energy sector and reduce its dependence on coal, creating a more secure and efficient energy supply. Retrofitting of public and private buildings for energy efficiency has significant potential for energy savings and reduced GHGs (which are five times higher than the EU average as a ratio of GDP) because of their current use of electricity and oil products.

3. Expected Beneficiaries. Project participants include Ministry of finance, Ministry of Health, Ministry of Economy and Municipalities, which will be part of the project implementation process in some way. Project beneficiaries include local people who are directly using the facilities of the targeted public buildings, such as: children/pupils in kindergartens/schools, employees of the targeted municipal buildings and their visitors, employees and patients in the targeted ambulances/hospitals, etc. Other interested parties might be individuals, groups, or organizations with an interest in the project, which may be because of the project location, its characteristics, its impacts, or matters related to public interest. For example, these parties may include regulators, government officials, the private sector, the scientific community, academics, unions, women's organizations, other civil society organizations, and cultural groups.

4. Project components. The project components and activities are the following:

Component 1. Energy efficiency investments in the public sector (€18 million). Under this Component, EE and some renewable energy (RE) investments ("subprojects") would be undertaken in public facilities (municipal buildings and public lighting, central government buildings of the Ministry of Health). It is expected that these subprojects will generate demonstrable energy cost savings and social co-benefits, which would form the basis for developing a sustainable mechanism under the proposed EE Fund.

Component 1(a) Energy Efficiency Investments in Municipal Sector (Est. cost €10 million). The energy audits, technical designs and construction supervision would be procured by the PIU at no cost to the municipalities; the municipalities would be responsible for procurement of the renovation works and final energy performance certifications.

The Project would seek to support cost-effective renovations of eligible municipal buildings and municipal-managed public lighting[2]. Proposed eligible investments would include building envelope measures (roofs/wall insulation, windows, doors), heating/cooling systems, water heating, pumps/fans and lighting. Some RE applications (e.g., rooftop solar PV, biomass heating, solar water heating,

[1] Government conclusion on it's 160th session held on October 22nd 2019
[2] Public lighting would include street lighting, traffic lights, lighting of parking lots, parks and signage.

geothermal or air sourced heat pumps) could also be considered if they meet the economic criteria and are primarily used to offset the building's electricity/fuel use (rather than to generate power to sell to the grid). A limited amount of funds (e.g., 10%) could be allocated for non-EE measures (e.g., rewiring, minor structural repairs, painting, seismic safety, etc.). The Project would seek to ensure minimum technical performance of the renovated buildings (i.e., country's Class C energy performance certificates or higher) and should include an investment cost of at least €50,000 but not more than €500,000, and a maximum simple payback period of 12-15 years (or unless the Bank otherwise agrees). Procedures for identifying the buildings, prioritization and selection will be finalized in the Project Operations Manual (POM).

Component 1b. Energy Efficiency and Renewable Energy Investments (€5 million) would be undertaken in public buildings managed by the central government focusing on the health sector. The Ministry of Health (MOH) confirmed their interest to participate in the Project and identify the buildings that will be renovated.

Component 1c. Technical studies to support investments (€3 million). This subcomponent will support subproject screening, detailed energy audits, technical designs and technical specifications, and construction supervision for investments undertaken in Components 1a and 1b. It would also include technical assessments needed for adequate disposal of any hazardous materials from the renovations as well as their actual disposal.

Component 2. Technical assistance and implementation support (€2 million). The draft Energy Efficiency Law, which includes a provision for the establishment of the proposed EE Fund, was approved by the Government and submitted to Parliament and expected to be enacted before the end of 2019. This component will be used to develop the supporting bylaws, additional strategies and plans, and the law/bylaw/ regulation to establish the proposed EE Fund.

Component 3. Initial capital for the proposed EE Fund (€5 million). In order to ensure that the EE Fund is established within the lifetime of the Project, and to ensure that investment capital is available for the Fund once it is established, it was agreed that €5 million would be set aside to be used by the EE Fund once it is established.

3. Location. The project will be implemented country-wide, with investments targeting public building to be selected form the available pool of about 2,441 central government and municipal buildings identified for retrofitting under the National Program for Energy Efficiency in Public Buildings (NPEEPB). Proposed building eligibility criteria would include: (i) ownership by (or assigned to) the local government (excluding municipally-owned enterprises, private buildings with municipal tenants)[3]; (ii) must be structurally and seismically safe, not had a full EE renovation in the past 10 years, and be at least 10 years old; (iii) no plans for office moves, closure, building demolition or privatization; and (iv) sufficient utilization rates (e.g., at least 50% of the designed capacity of the building is being used).

4. Project Risk Ratings. *Environmental Risk Rating* is assessed as *"Moderate"* because the anticipated risks and impacts associated with the implementation of civil works on sub-project level are localized, site-specific with low probability of serious adverse effects to human health and/or environment, limited in time, predictable and small in magnitude. At the same time, generation of some hazardous waste, considerable volumes of demolition debris and excess material are expected and will require proper handling to avoid negative impacts on the health and safety of workers, communities and the natural

[3] However, some public buildings related to defense or police (e.g., prisons) may not be eligible due to Bank restrictions.

environment. The overall environmental footprint of the project will be positive. The capacity of the client to manage the environmental risks is satisfactory.

Social Risk Rating is assessed as *"Low"* as the work activities are limited in the nature and scope to energy efficiency measures in buildings. There will be no land acquisition impacts with the activities financed by the project. It is expected that small and medium construction companies that operate regionally within Northern Macedonia will be hired. This the labor influx risk is low. The PIU has experienced E&S staff and engineers which are cognizant and apply the Occupational Safety and Health Standards and safety at work standards with the contractors for the MSIP project. Given the low nature of risks and experienced staff at the implementing agency the Social Risk Rating proposed for the operation is "Low".

5. *Purpose of Environmental Management Framework*. The main goal of the ESMF is to avoid, minimize or mitigate, potential negative environmental and related social impacts caused by implementation of the project. While all buildings under the NPEEPB are eligible for financing, the applications will be demand-driven, with specific sites/sub-projects to be selected in the course of the project implementation. Therefore, the Framework approach is chosen for the project, with details to unfurl as and when the sub projects are identified. Hence, The Framework ensures that the identified subprojects are correctly assessed from environmental and social point of view to meet the WB's Environmental and Social Framework (ESF) and its applicable Standards, as well as North Macedonia's Environmental and Social Laws and Regulations for adequate mitigation of any residual and/or unavoidable impacts. The Framework serves as a guidance tool for the Ministry of Finance of the Republic of North Macedonia (MF), the implementing agency, in identifying and assessing the potential environmental and social impacts of sub-projects, in preparing Environmental and Social Management Plans that will summarize necessary and specific mitigation measures to avoid, minimize or prevent impacts, and to provide guidance on environmental and social monitoring and reporting.

6. *Institutional capacities to manage environmental and social risks and impacts*. Overall, activities for the PSEEP will be predicated on the principles of transparency, inclusiveness and responsive citizen engagement throughout the Process cycle. Citizen engagement is based on a two-way interaction and dialogue with local/government and emphasizes the sharing of power, information, and a mutual respect between government and citizens.

The PSEEP will be implemented by the Ministry of Finance of the Republic of North Macedonia as the main responsible institution in cooperation with the Ministry of Economy (MOE). Implementation of the project will be carried out through the established structure comprising: PSEEP Project Implementation Unit (PIU) and Coordination Committee (CC).

PSEEP Project Implementation Unit (PIU) will be located in the premises of the Ministry of Finance, staff from the current MSIP/MSIP2 will be part of the PIU for this project as well: civil engineers, experts to provide assistance on environmental and social safeguards issues, fiduciary staff (procurement and financial experts), grant coordinator, lead coordinator for the three components of the project. PIU will have main responsibilities regarding the Project implementation, project coordination, monitoring activities and reporting. An independent Environmental Expert and Social Expert (EE and SE) will be engaged by the PIU on a full time or part time basis for the entire period of the project implementation. The EE and SE will be responsible for ensuring proper environmental management of all Project activities.

7. Potential environmental impacts. The proposed project activities under Component 1 could generate environmental impacts associated with noise, dust, air and water pollution, solid waste management, health

hazards and labor safety issues, etc. The environmental risks are expected to be typical for small scale construction/rehabilitation works of existing public buildings/replacement of street lighting, temporary by nature and site specific and can be easily mitigated by applying best construction and/or energy supply or energy efficiency practices and relevant mitigation measures.

8. Potential social impacts and resettlement issues. The subprojects to be implemented under the Component 1 will contribute to improved comfort level in the targeted public buildings and costs savings due to increased energy efficiency. The proposed sub-project activities could generate adverse social impacts associated with temporary access restrictions, labor management issues and associated GBV, occupational and community health and safety. Resettlement issues are not envisaged with the sub-project activities.

9. Environment and Social Management Framework (ESMF) structure. The document consists of seven chapters that outline environmental and social assessment procedures and mitigation requirements in line with the Bank's ESF requirements and standards for the subprojects which will be supported by the Project.

i. Chapter One includes the Brief Description of the Project Context and the project development objectives and components.

ii. Chapter Two narrates the Baseline Data on environmental and social background of Republic of North Macedonia, providing analysis of current environmental and social trends at country level.

iii. Chapter Three describes the Legal, Regulatory and Policy Framework and provides an overview of laws and regulations that have relevance for environmental and social issues for the PSEEP.

iv. Chapter Four has a summary of the World Bank's Environmental and Social Standards (ESS) that are designed to support Borrowers' projects. The ESS requirements are related to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing.

v. Chapter Five analyzes Potential Positive and Adverse Environmental and Social Risks and Impacts related to the project activities implementation.

vi. Chapter Six includes Environmental and Social Risk Management Instruments and specific measures or actions planned to prevent, avoid, minimize, reduce or mitigate the environmental and social risks and impacts of the project over the project cycle to meet the ESS requirements.

vii. Chapter Seven describes the Implementation Arrangements. It provides details on procedures, criteria and responsibilities for subprojects preparing, screening, appraisal, implementation and monitoring.

Relevant Appendices are enclosed at end of this document to compliment the above-mentioned chapters.

10. ESMF disclosure and consultation. The final ESMF was disclosed on the MF website on November 7th, 2019 (www.finance.gov.mk) in Macedonian and English language. MF also officially submitted the final ESMF to the World Bank for disclosure in English and Macedonian on the WB external. The final version of this document will be used by respective government agencies and other Project stakeholders and partners during the project implementation. On November 18, 2019 MF conducted the public presentation and consultations on the ESMF, while the online consultations with stakeholders were open till December 6, 2019. Minutes of the consultation process is provided in Appendix 9. The update of the ESMF was disclosed on the MF website on February 28, 2025 (www.finance.gov.mk) in Macedonian and English language. MF will also officially submit the final ESMF to the World Bank for disclosure in English and Macedonian on the WB external webpage by February 28, 2025. The final version of this document will be

used by respective government agencies and other Project stakeholders and partners during the project implementation. The online consultations with stakeholders were open till March 30, 2025. Minutes of the consultation process is provided in Appendix 9.

PART 1: Introduction

Public Sector Energy Efficiency Project derives from the World Bank's Country Partnership Framework for the Republic of North Macedonia for the period January 2019 – June 2023. In Focus Area III - Sustainable Growth, planned investments in energy efficiency and renewable energy (RE) will directly contribute to the reduction of CO_2 emissions. The country aims to further develop low-carbon energy sector and reduce its dependence on coal, creating a more secure and efficient energy supply. Retrofitting of public and private buildings for energy efficiency has significant potential for energy savings and reduced GHGs (which are five times higher than the EU average as a ratio of GDP) due to their current significant use of electricity and oil products.

The **Project Development Objectives** are: (i) reduce energy consumption in the public sector; and (ii) support the establishment and operationalization of a sustainable financing mechanism for the public sector.

The first objective will be achieved through sub-loan financing of municipal subprojects and grant financing of health facilities, while the second will be achieved through creation of National Energy Efficiency Fund that will be established in the Development Bank of North Macedonia.[4]

1.1 Purpose of the ESMF

The main goal of the ESMF is to avoid, minimize or mitigate, potential negative environmental and related social impacts caused by implementation of the project. The project will be implemented country-wide, with investments targeting public building to be selected form the available pool is about 2,441 central government and municipal buildings identified for retrofitting under the National Program for Energy Efficiency in Public Buildings (NPEEPB). While all buildings under the NPEEPB are eligible for financing, the applications will be demand-driven, with specific sites/sub-projects to be selected in the course of the project implementation. Therefore, the Framework approach is chosen for the project, with details to unfurl as and when the sub projects are identified. Hence, The Framework ensures that the identified subprojects are correctly assessed from environmental and social point of view to meet the WB's Environmental and Social Framework (ESF) and its applicable Standards, as well as North Macedonia's Environmental and Social Laws and Regulations for adequate mitigation of any residual and/or unavoidable impacts. The Framework serves as a guidance tool for the Ministry of Finance of the Republic of North Macedonia (MF), the implementing agency, in identifying and assessing the potential environmental and social impacts of sub-projects, in preparing Environmental and Social Management Plans that will summarize necessary and specific mitigation measures to avoid, minimize or prevent impacts, and to provide guidance on environmental and social monitoring and reporting.

1.2 Rationale for the ESMF

The ESMF provides guidelines for the development of appropriate mitigation and compensation measures for adverse impacts caused by the project activities. This document outlines the background / context, the policy and regulatory framework, a brief description of the environmental impacts of possible EE subprojects, Environmental and Social Assessment (ESA) procedures & guidelines,

[4] Government conclusion on its 160th session held on October 22nd 2019

institutional arrangements, and consultations and disclosure procedures. The policy & regulatory framework includes also a section describing both measures, which will be used to ensure compliance with the national laws and WB requirements. Under the ESA procedures and guidelines, there are details on responsibilities for sub-project preparation, screening, appraisal, implementing and monitoring. These guidelines will assist in outlining what is required for the sub-project Environmental and Social Management Plans (ESMPs). It includes guidelines for proposed buildings reconstruction subprojects and street lighting in the form of an ESMP checklist. Under institutional arrangements, the project will also support training and capacity building of sub-project beneficiaries and their consultants / contractors. Lastly, under ESMF disclosure and consultation, there is an outline of what will be done both for the ESMF as well as for the subprojects to be funded under the PSEEP.

This ESMF will be cleared with the World Bank (WB), uploaded on WB's external web-site and available locally through the web-site of the Ministry of Finance (MF), in compliance with the WB's policy. The ESMF will be translated into Macedonian language and further will be distributed in such a way as to be available to central and local government agencies and community members. Implementation of the planned project investments will only take place following these approvals and information sharing/consultation.

1.2.1 Rationale for the update of the ESMF

The Public Sector Energy Efficiency Project (PSEEP, Parent Project) became effective on 12th of May 2021 and the existing Project Implementation Unit (PIU) structure with staff from the previous Municipal Services Improvement Project 2 (MSIP2) project within the Ministry of Finance immediately started the implementation actions. The Closing Date of the Parent Project is September 30, 2025. The newly proposed Closing Date is January 31, 2027.

Due to the sharp rise in construction costs, the financing under Component 1b of the Parent Project was insufficient for renovation of all the health buildings for which tender documents were prepared. Therefore, the Ministry of Finance (MoF) sought grant funding from the Western Balkans Investment Framework (WBIF) with the Bank's support. The application was approved on June 30, 2023, and the WBIF grant in the amount of €2.14 million will represent the Additional Financing (AF) to the Parent Project. The AF will support the retrofitting of two more central government health buildings: (1) University Clinic for Rehabilitation and Physical Medicine in Skopje and (2) Healthcare Center Skopje "Idadija".

1.3 Approach and Methodology for Preparation of ESMF

During preparation of the ESMF the following research methods were applied: desk review of the available national regulatory and legal documents related for the environmental and social assessment; screening of secondary socio-economic statistical data available for the municipalities and administrative regions, individual interviews with international and local experts, focus groups discussions, public meetings and consultations.

The engineering staff and environmental consultant of the current MSIP/MSIP2 PMU within the MF discussed the PSEEP activities with purpose to identify potential environmental and social risks and impacts of the proposed Project in order to draft the ESMF. Consultations have been conducted with the Ministry of Environment and Physical Planning as well as with the Ministry of Economy, Department of Energy. The public consultations were held with civil society organizations (CSOs) in

Skopje on November 18, 2019.

1.4 Project Description

The global commitment to environmental protection and in particular to reduction of greenhouse gas emissions, Macedonia's dependence on energy imports, as well as the need to secure greater variety and thereby reliability of energy supply undoubtedly impose increased share of renewable energy sources in the final energy consumption. However, in parallel with activities and measures targeting increased share of renewable energy sources, measures and activities to increase energy efficiency of final energy consumption should be pursued. Thus, the target share of renewable energy sources in final consumption will be achieved much easily and faster, but the economy's competitiveness will also be improved due to reduced energy costs.

The Republic of North Macedonia signed and ratified the Agreement of the Energy Charter, the Energy Community Agreement, the United Nations Framework Convention on Climate Change and the Kyoto Protocol. Together with the signing of the Energy Charter Agreement Macedonia also signed a Protocol for Energy Efficiency and Relevant Environmental Protection Aspects.

The activities related to regulating specific issues related to the performance of energy activities specified in the Law on Energy are performed by the Energy Regulatory Commission (ERC) of the Republic of North Macedonia. The Energy Regulatory Commission works and decides independently within the framework of the competences determined in the Law on Energy. The Energy Regulatory Commission has the status of a legal entity.

The council of the municipality, i.e. the Council of the city of Skopje, upon a proposal from the mayor, and after acquiring an opinion from the Ministry of Economy, enacts an energy development program for the municipality or the city of Skopje. These programs are enacted for a period of five years and they should be harmonized with the Strategy for Energy Development of the Republic of Macedonia. They determine, the method and conditions regarding the performance of energy activities of public interest of local significance, the need and the sources of funding for new facilities and reconstruction and upgrading of existing facilities, plants and installations for performing energy activities of public interest of local significance, the quantities of natural gas and heat required to satisfy the demand of the citizens and other consumers in the area of the municipalities and the city of Skopje and the measures and activities for increasing the energy efficiency and production of energy from renewable energy sources.

The priorities driving the “Strategy for Improvement of Energy Efficiency in the Republic of Macedonia until 2020” are linked to the national security and development goals, and include the following:

1. Reliable energy supply
2. Sustainable economic development
3. Competitiveness of the economy

These priorities will be achieved by a series of strategic measures, including the following:

- Reduction of dependence on imported fuels through and electricity consumption for non-productive use.

- Modernization of the energy infrastructure, and diversification of energy supply (the extension of a natural gas network is an important basic element in the realization of all expected energy efficiency measures).
- Enforcement of regional cooperation and fulfilment of Energy Community acquis.
- Energy sector management and training, including technology transfer (Best Available Technologies – BAT, clean development mechanism – CDM).
- Building a framework that will allow viability of energy efficiency improvements on a commercial basis.

1.4.1 Project Overview

The **Project Development Objectives** are to: (i) reduce energy consumption in the municipal sector; and (ii) support the establishment and operationalization of a sustainable financing mechanism for the public sector.

The project aims to achieve these objectives by enabling investments into municipal and government owned buildings and use of renewable energy sources.

Progress made under the proposed project will be monitored according to these intermediate indicators: (a) projected lifetime energy savings from EE investments in public buildings (MWh); and (b) establishment and operationalization of an EE Fund; (c) associated CO_2 emissions reductions as a result of the energy savings (tons of CO_2 equivalent); (d) number of buildings/street lighting systems renovated, (e) budgetary savings from investments, (f) number of beneficiaries (disaggregated by gender), (g) percentage of project beneficiaries reporting an improvement in building comfort level (disaggregated by gender), (h) number of participants in capacity building activities (with gender breakdown), (i) percentage of municipalities using citizen engagement mechanisms and (j) number of participants (contractors, municipality staff, supervision staff) in gender equality training.

1.4.2 Project Components

PSEEP will consist of three components to support energy efficiency investments in public buildings and policy/TA to help set-up and operationalize an energy efficiency revolving fund.[5] Physical investments will be needed to help develop the market for energy efficiency materials and services, while a transition plan is developed to move from the proposed project implementation unit (PIU) structure to a more sustainable and permanent, independent fund.

The three components that the Project would include are:

- Component 1: Energy efficiency investments in the public sector (€18 million, IBRD)
- Component 2: TA and project implementation support (€2 million, IBRD)
- Component 3: Initial capital for the Energy Efficiency Fund (€5 million, IBRD)

The Project would include three components: (i) energy efficiency investments in the public; (ii) technical assistance (TA) and project implementation support; (iii) initial capital for the proposed Energy Efficiency Fund (or 'EE Fund').

Component 1. Energy efficiency investments in the public sector (€18 million). Under this Component,

[5] The draft Law on Energy Efficiency includes a provision for an Energy Efficiency Fund (Article 30), "to be established as an independent and separate legal entity, with a purpose to enable achievement of the targets and support of the energy efficiency policies stipulated" within the law.

EE and some renewable energy (RE) investments ("subprojects") would be undertaken in public facilities (covering municipal buildings and public lighting, central government buildings). It is expected that these subprojects will generate demonstrable energy cost savings and social co-benefits, which would form the basis for developing a sustainable mechanism under the proposed EE Fund. The focus will be on renovation of larger buildings with high energy consumption that typically yield more energy savings. This component would support preparation of the energy audits and technical designs, renovation works, construction supervision and final energy performance certificates. Centralized preparation work will be important to ensure the preparation documents are consistently prepared and of high quality, given that many municipalities have limited expertise in reviewing such documents.

Component 1(a) Energy Efficiency Investments in Municipal Sector (Est. cost €10 million). Municipalities would apply for financing based on periodic calls for proposals for the renovation of buildings under their management and/or public lighting systems. The energy audits, technical designs and construction supervision would be procured by the PIU at no cost to the municipalities; the municipalities would be responsible for procurement of the renovation works and final energy performance certifications. Financing would be provided through sub-loan agreements similar to the practice under the ongoing MSIP program. Sub-loans would generally be repaid over a 10-13-year period. It was also agreed that about 10-20% of the investment amount would be provided as a grant to the municipality.

The Project would seek to support cost-effective renovations of eligible municipal buildings and municipal-managed public lighting[6]. Proposed building eligibility criteria would include: (i) ownership by (or assigned to) the local government (excluding municipally-owned enterprises, private buildings with municipal tenants)[7]; (ii) must be structurally and seismically safe[8], not had a full EE renovation in the past 10 years, and be at least 10 years old; (iii) no plans for office moves, closure, building demolition or privatization; and (iv) sufficient utilization rates (e.g., at least 50% of the designed capacity of the building is being used). Eligible municipalities must have sufficient debt capacity to borrow from the Project for the proposed subproject. Proposed eligible investments would include building envelope measures (roofs/wall insulation, windows, doors), heating/cooling systems, water heating, pumps/fans and lighting. Some RE applications (e.g., rooftop solar PV, biomass heating, solar water heating, geothermal or air sourced heat pumps) could also be considered if they meet the economic criteria and are primarily used to offset the building's electricity/fuel use (rather than to generate power to sell to the grid). A limited amount of funds (e.g., 10%) could be allocated for non-EE measures (e.g., rewiring, minor structural repairs, painting, seismic safety, etc.). The Project would seek to ensure minimum technical performance of the renovated buildings (i.e., country's Class C energy performance certificates or higher) and should include an investment cost of at least €50,000 but not more than €500,000, and a maximum simple payback period of 12-15 years (or unless the Bank otherwise agrees). Procedures for identifying the buildings, prioritization and selection will be finalized in the Project Operations Manual (POM).

[6] Public lighting would include street lighting, traffic lights, lighting of parking lots, parks and signage.

[7] However, some public buildings related to defense or police (e.g., prisons) may not be eligible due to Bank restrictions.

[8] A new regulation was put in place after the Skopje earthquake in 1963 and all buildings constructed after the new regulation was enacted have generally been in compliance. Draft building technical designs are reviewed, supervised and approved by IZEES (the *Institute* of Earthquake Engineering and Engineering Seismology). In the case that construction permits and seismic certifications are not available, the PIU can include an engineering seismic assessment with the energy audit. If deficiencies are identified, these costs can be included in the renovation costs if the payback period is under 15 years. If not, the building will be removed from the Project.

Component 1b. Energy Efficiency Investments in Central Government Buildings of the Ministry of Health (€5 million) Under this Component, EE and renewable energy investments would be undertaken in public buildings managed by the central government focusing on the health sector. The Ministry of Health (MOH) confirmed their interest to participate in the Project and identify the buildings that will be renovated.

Component 1c. Technical studies to support investments (€3 million). This subcomponent will support subproject screening, detailed energy audits, technical designs and technical specifications, and construction supervision for investments undertaken in Components 1a and 1b. It would also include technical assessments needed for adequate disposal of any hazardous materials from the renovations as well as their actual disposal.

Component 2. Technical assistance and implementation support (€2 million). The draft Energy Efficiency Law, which includes a provision for the establishment of the proposed EE Fund, was approved by the Government and submitted to Parliament and expected to be enacted before the end of 2019. This component will be used to develop the supporting bylaws, additional strategies and plans, and the law/bylaw/ regulation to establish the proposed EE Fund. Following indicative list of technical assistance (TA) activities were agreed: (i) establish a legal basis for establishment of the proposed EE Fund (to be a state-owned entity to offer financing and services to support the renovation of public EE projects, both central and municipal) including the draft legislation/regulation, governance structure and institutional set-up; (ii) review and develop templates for the various financial instruments (e.g., loans, energy service agreements, partial grants, etc.) and other service offerings (e.g., audit/design procurement) of the Fund to service both central and municipal facilities, assess demand and absorption capacity of the market, potential for nondebt instruments (as compliant with the Macedonian legislation on public debt), repayments, risks, etc. and the legal basis for financing agreements with eligible public institutions to ensure its sustainability; (iii) formulation of a 5-year staffing and investment plan for the Fund, including a prospective subproject pipeline for the initial year of operations and detailed operating procedures; (iv) support to develop broader EE secondary legislation and further EE market development. While the specific areas will be confirmed once the EE Law has been adopted, an indicative list of options include: (i) updates of EE-related rulebooks for buildings and building performance certificates; (ii) support for homeowner association legislation to allow for commercial borrowing and signing of contracts for building renovations; (iii) development of a long-term building renovation strategy (as required under the revised EU Energy Performance in Building Directive); (iv) regulations for net-metering for rooftop solar PV installations on public and residential buildings; and (v) other areas as requested by the Ministry of Economy; (v) targeted information campaigns and training of EE market actors (e.g., energy auditors, design firms, construction companies, ESCOs, commissioning inspectors) to ensure adequate demand for municipal applications, technical competencies and learning lessons from early projects; and (vi) support for the project implementation and PIU, including safeguards, gender and citizen engagement aspects, project monitoring and reporting, PAD preparation consultants etc.

Under Component 2[9] of the Parent Project, in February 2021 a consultant company was contracted to prepare all relevant documentation for establishing the Energy Efficiency Fund (EEF) within the

[9] The Energy Efficiency Law, which includes a provision for the establishment of the proposed EE Fund, was enacted by the Parliament of North Macedonia on 5th February 2020 (Off. Gazette No. 32/2020 and Amendments No. 110/2021, No. 236/2022 and No. 147/2024). This component will be used to develop the supporting bylaws, additional strategies and plans, and the law/bylaw/ regulation to establish the proposed EE Fund.

Development Bank of North Macedonia (DBNM), as one of the key Project Development Objectives. This technical documentation includes:

(1) Option Paper discussing legal, institutional and financial feasibility of 4 various options for establishing the EEF,

(2) Concept Paper for establishing the selected best option for establishing the EEF within DBNM,

(3) Long-term (10-years) Strategy for the development of the EEF and a 5-years Business Plan for the initial operations and sustainable growth of the EEF with Action Plan,

(4) Amendments to the DBNM Law providing legal basis for establishing the EEF,

(5) Framework Agreement between the Government of Republic of North Macedonia (GoRNM) and DBNM for establishing the EEF Organizational Unit within DBNM as well as Subsidiary Agreement between the GoRNM and DBNM for the implementation of the initial capital fund of €5 million under the Component 3[10] of the PSEEP, and

(6) Operational Manual with detailed procedures and implementation arrangements for the EEF primarily targeting the initial capital fund. This Operational Manual also includes a section with requirements for implementation of the ES requirements for all investment projects financed through the EEF as envisaged under the ESMF of the Parent Project. The Parent Project ESMF has been enclosed as Annex 9 to this Operational Manual.

Component 3. Initial capital for the proposed EE Fund (€5 million). In order to ensure that the EE Fund is established within the lifetime of the Project, and to ensure that investment capital is available for the Fund once it is established, it was agreed that €5 million would be set aside to be used by the EE Fund once it is established. The funds would be used to support EE Fund staff, operating costs, marketing, and initial audits/designs/investments. The funds would not be used until the EE Fund is legally established, a set of operating procedures (operations manual) has been adopted by the Fund's Board of Directors and approved by the Bank, an investment and staffing plan have been approved by the Board and Bank, the Fund has a minimum number of staff to operate effectively and the Bank has conducted an assessment of the Fund's technical, fiduciary and safeguards capacities.

In this regard, this update of the ESMF is aiming to clearly indicate the obligation of the DBNM/EEF to adopt and act in compliance with the Parent Project ESMF procedures.

[10] Initial capital for the proposed EE Fund (€5 million). In order to ensure that the EE Fund is established within the lifetime of the Project, and to ensure that investment capital is available for the Fund once it is established, it was agreed that €5 million would be set aside to be used by the EE Fund once it is established.

Part 2: Baseline Environmental and Social Data

2.1 Background Information about North Macedonia

Figure 1: Map of Republic of North Macedonia

The Republic of North Macedonia is situated in South-Eastern Europe. It is a central Balkan country bordering with four countries: to the east with Bulgaria, to the north with Serbia, to the west with Albania and to the south with Greece. The Republic of North Macedonia covers an area of 25,713 km² and has 2,022,547 inhabitants, according to the 2002 Census. The country's capital is Skopje with 506,926 inhabitants. The average population density is 83.2 inhabitants per km².

The country's position is very favorable, and it is an important regional cross road connecting several countries and the South-Eastern Europe. The international highway E – 75, road M5 and international railway as well as corridors 8 and 10 are the most important traffic corridors throughout the country (Figure 1: Map of Republic of North Macedonia).

The Republic of North Macedonia has a diverse topography with high mountains and deep valleys surrounded by mountains, picturesque rivers, large and small natural lakes and spas. The highest point is the peak of Mount Korab with a height of 2,764 m. Macedonian cultural sites and resources occupy an important place in the world cultural heritage.

The longest river is Vardar (388 km in total, of which 301 km are in the Republic of North Macedonia), and it mostly flows through the central part of the country. Three large lakes — Ohrid, Prespa and Dojran — lie on the southern borders of the county, bisected by the frontiers with Albania and Greece. Lake Ohrid is considered to be one of the oldest lakes and biotopes in the world and the deepest in the Balkans (286 m).

The Republic of North Macedonia is dominated by sub-Mediterranean climate with characteristic warm and dry summers, and cold and humid winters. The mean annual temperatures decrease from the north to the south of the country.

Republic of North Macedonia is one of the rare countries in Europe with wealth of natural values regarding the natural conditions. Richness and heterogeneity of species and ecosystems, and the high degree of relicts and endemism are the main characteristics of biological diversity in the Republic of North Macedonia. The network of protected areas in the Republic of North Macedonia includes 86

objects with total surface area of 226 809.65 ha, which is approximately 8.82% of the total territory of the country. Most of it falls into the category national parks with around 4.5% (3 National Parks: Mavrovo, Galichica and Pelister), natural monuments with 2.74% and the multipurpose area Jasen with 1.05% of the national territory.

The agricultural land, which includes the cultivable land and the pastures, takes about 56.2% of the total area. The forests spread on around 43.8% of the total area of the country.

Republic of North Macedonia is considered rich in water resources and it has recorded and mapped 4,414 springs in total, with overall annual capacity reaching 6.63 billion m3 of water. According to the hydro graphic division, the country belongs to three water basins, namely: Adriatic Sea (15% of the territory) with the main entry watercourse being the river Crn Drim; Aegean Sea (85% of the territory) with the rivers Vardar and Strumica as the major watercourses; Black Sea, the basin of which has insignificant territory.

The Republic of North Macedonia has wonderful lakes, untouched mountains, great history and wealthy cultural heritage as a base for development of tourism. The capital city Skopje and the Ohrid area (UNESCO-protected) are the key tourist destinations, as well as Prespa and Dojran Lake, the National Parks: Pelister, Galichica and Mavrovo and other areas with cultural and historical significance. In 2006 the process of decentralization started with delegation and transferred of plenty of rights and responsibilities to the Local self-Governments, and currently there are 80 municipalities and the City of Skopje, which is a district unit of local self-government that consists of 10 municipalities (Aerodrom, Karpos, Cair, Gazi Baba, Gjorce Petrov, Saraj, Suto Orizari, Kisela Voda, Centar and Butel) which have jurisdiction for different obligations in order to provide sustainable and healthy life of their citizens. There are 43 urban municipalities and 37 rural municipalities. In total there are 1,767 settlements and 34 cities in the Republic of North Macedonia. The main competences of the municipalities are in the following areas: a) urban planning, b) environmental protection, c) communal activities, d) education – primary and secondary schools, e) social protection and health care – primary health care and kindergartens and homes for old people, f) sport and recreation – local sport facilities, g) culture and others.

For better economic development and statistical purposes, the Republic of North Macedonia is divided into 8 non-administrative units, statistical regions that are formed by grouping the municipalities as administrative units of lower level (*Figure 2: Administrative division of municipalities per 8 regions in Republic of North Macedonia)*.

The demographic indicators at regional level show considerable differences, which points to a big disproportion in the territorial distribution of the population. The Skopje Region, as most densely populated, has almost ten times higher density than the Vardar Region, which is the least densely populated.

2.2 Baseline Environmental Data

Environmental and social issues within the country are similar to those of many other countries in the region.

The air quality is an issue during the whole year, especially in the winter season for bigger cities in some regions as a result of old equipment in the industry sector and energy production installations, the way of heating of households, old vehicle fleet and lack of state-of-the art technology solutions, as well as weak regulatory, monitoring and enforcement framework.

Water is under pressure from **climate change** and **anthropogenic activities**. Use of freshwater resources fluctuated during the period 2002-2011, including an increase in 2004, due to the processing

Figure 2: Administrative division of municipalities per 8 regions in Republic of North Macedonia

industry as a principle user. Key consumers are: agriculture 42%; industry 29%; households 24% and energy production 2%[11]. **Water quality** is within limit values, mainly within class II, and sometimes within class III, as prescribed in the **Decree for water categorization**. This is mainly as a result of discharging of untreated communal waste water from the most cities in the country and small settlements, waters from industry sector and agriculture. Also, water quality can be affected by construction activities near the water sources or by improper waste management (disposal of waste near/ in water sources).

There is also so-called historical pollution of soil, water and air from the disposal of industrial hazardous waste from industry and mining operations which represent potential risks to the human health and impact to the biodiversity.

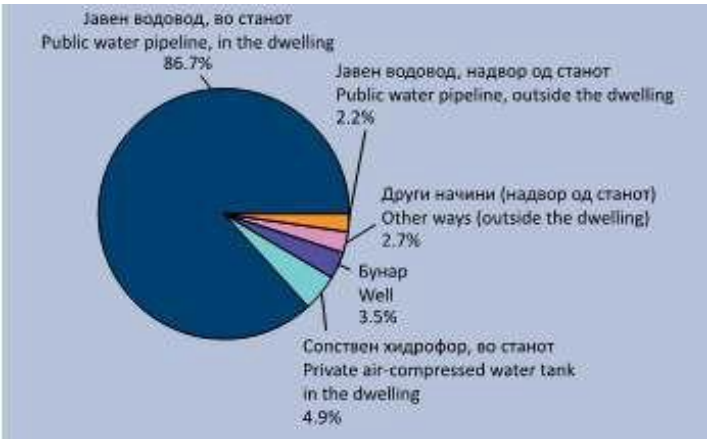
[11] Source: The Former Yugoslav Republic of Macedonia country briefing - The European environment — state and outlook 2015

Noise can cause a serious health and environmental problem, especially for children. Noise can interfere with mental activities requiring attention, memory and ability to deal with complex analytical problems.

2.2.1 Water Supply

In many urban municipalities combined sources are used, while rural water supply systems are mainly supplied from springs and groundwater. The household in RNM are supplied with drinking water from: public water pipeline (in and outside the dwelling), other ways (outside the dwelling), private air compressed water tank, well (according the census of Population, Households and Dwellings from 2002). Number of population connected to public water supply system is 1,200,000 inhabitants.

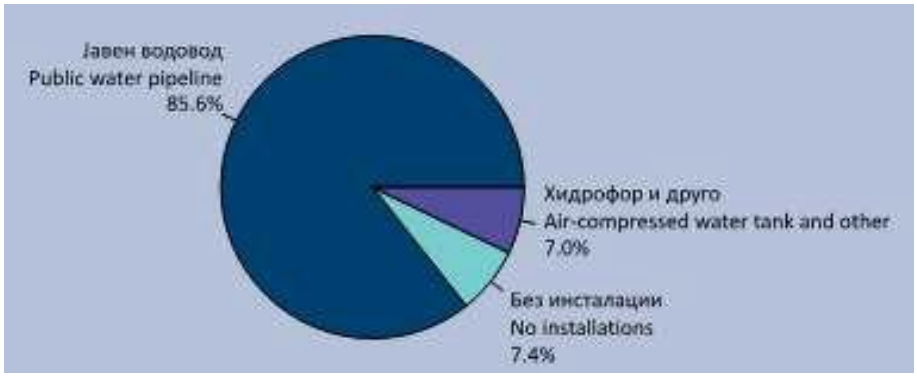
Figure 3: Drinking water supply system for households in Macedonia



Data shows that 88.9% of the total number of individual households (564,296) and 597,014 of dwellings (or 86.7 % from total number of dwellings 698,143) are supplied with drinking water from public water pipeline.

The majority of households that are not supplied with drinking water from a public water pipeline are concentrated mostly in sparsely populated rural settlements.

Figure 4: Dwellings according to water supply installations



Sanitary-hygienic condition of the drinking water is within the limits of the expected quality (91.5%-

95% of samples are safe), as well as physical-chemical (only 2.6% to 5.6%of samples are unsafe) and microbiological conditions (only 0.8% to 3.0% of samples are unsafe).

According to the data from the “Development of Water Tariff Study for Republic of Macedonia” the water supply coverage in almost each municipality is above 90%. Some of the existing drinking water supply systems in the country are old and there are often water losses.

Coverage problems exist in the non-urbanized inhabited areas, places/facilities which due to technical reasons arising from their location cannot be connected, as well as some of the villages. Small settlements usually have problems with lack of drinking water supply system, or there is a need of reconstruction of the existing system or their extension.

Lack of safe drinking water causes potential risks to human health due to the waterborne diseases, increase of medical costs, absents of work, etc.

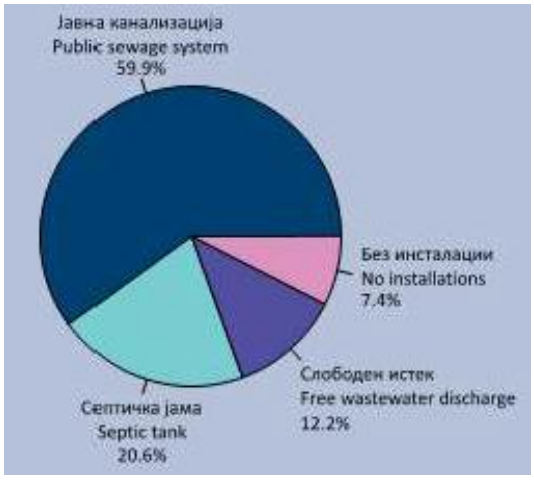
Total abstractions for public water supply from fresh surface and groundwater sources (cubic meters per inhabitant) vary from 102 m^3/capita (2002) to 133m^3/capita (2009).

2.2.2 Waste Water Treatment

Regarding the waste water treatment, data collected by Census in 2002 shows that from the total number of dwellings 40.1% are not equipped with installations for discharging wastewater from the households into public sewers systems.

The most of dwellings (59.9%) are connected to the public sewage system and approximately 20.6 % of the dwellings have their own septic tanks performing periodic cleaning. Without installations are 7.4% and 12.2% have free waste water discharge.

Figure 5: Sewage system in Republic of North Macedonia

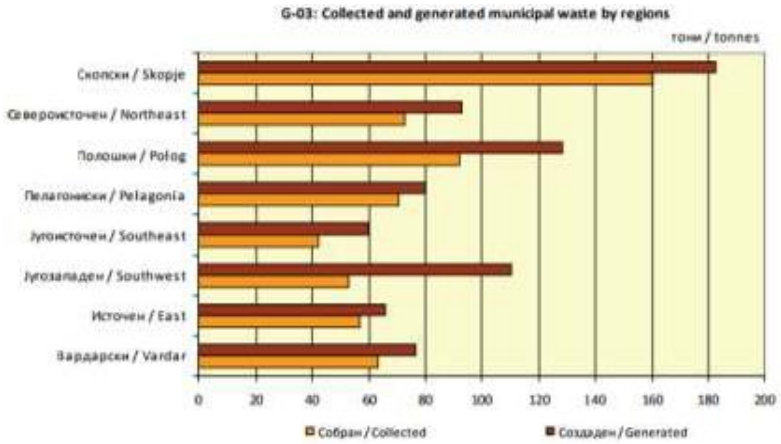


2.2.3 Waste Management

According to the data of the State Statistical Office, the total amount of collected municipal waste in the Republic of North Macedonia in 2016 was 610,227 tones. Compared to 2015, the total amount of

collected municipal waste decreased by 1.6 %. The highest amount of collected municipal waste was registered in the Skopje Region – 160,290 tones, or 26.2% of the total collected amount in the Republic of North Macedonia.

Figure 6: Collected and generated municipal waste by regions (Source: State Statistical Office)



Total processed waste for 2016 is transported municipal and other types of non-hazardous waste. Of the reported quantities of processed waste, 2260.7 tons is recycling of paper, cardboard, plastics, glass and metals, and 2,238.85 tons of wastes is composted.

From the total amount of collected municipal waste, 512,657 tones, or 84%, was from households, and the remaining 16% from legal and natural persons (commercial waste). The municipal waste collection system covers 75% of the national population.

By waste type, the highest amount of collected waste is mixed municipal waste, 543,644 tones or 89 %, and the lowest amount of collected waste amount is rubber waste, 656 tones or 0.1% of the total amount of collected waste.

The total amount of generated municipal waste in the Republic of North Macedonia in 2016 is 0.85% in relation to the total reported, collected and amount is rubber waste, 656 tones or 0.1% of the total was 796,585 tones. The annual amount of generated municipal waste per person in 2016 was 376 kg per person, which is 1.1% more than in 2015. Most of the collected municipal waste (99.4%) is disposed of in landfills. According to the Annual Environmental Report for 2016, total generated hazardous waste is 23 417.43 tons or 4 325.2 m^3.

Proportional share of different waste types generated on national level is shown on Figure 7.

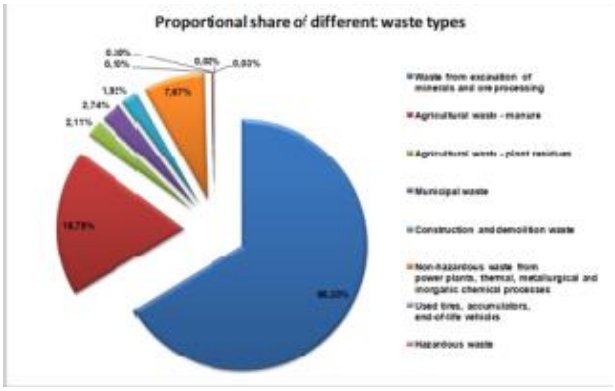
Generated solid waste in Macedonia is mostly disposed. Only the Skopje landfill “Drisla – Skopje” DOO fulfills the minimum criteria prescribed in the national and EU landfill criteria. All others do not comply with any technical and/or environmental standards; landfills represent risks for the pollution of air, soil, surface water and groundwater, as well as potential risks for biodiversity, agricultural land and human health due to deposition of mixed hazardous and non-hazardous waste.

There are 4 companies specialized for collection of the packaging waste mainly from drinking water and beverages bottles, food products package, cosmetics and pharmaceutical package.

An additional environmental problem is represented by the traditional burning on open-air fires of

municipal waste, plant tissue waste and plastics originating from greenhouses or silage coverage. Most of the existing municipal dumpsites need to be closed since the site conditions and environmental impact do not allow them to be upgraded economically, to be harmonized with the EU standards.

Figure 7: Proportional share of different waste types generated on national level



Active municipal waste landfills (54) are categorized according to the assessment of their environmental risk. 16 landfills are ranked with high risk, 16 with medium risk, and 19 with low environmental risk. Existing municipal waste landfills categorized according to their environmental risk are shown on Figure 8. Four high-risk landfills are classified as special cases and need to be closed and/or remediated immediately.

According to the National Waste Management Strategy (2008 - 2020), the regional approach to the municipal solid waste management was proposed and in the period from 2011 till now several practical steps toward regional waste management were made. Several Regional Public Enterprises for municipal waste management (Regional Waste Management Body) were founded in few regions.

Figure 8: Overview of the existing municipal landfills and categorization according to their risk on the environment

Republic of North Macedonia has been implementing projects in order to establish an Integrated Financially Self – sustainable Waste Management Systems in Pelagonija, Southwest, Vardar and Skopje Planning Regions and also for the East and Northeast Planning Regions. Also, with support of EU IPA funding projects the technical documentation for closure of illegal dumpsites in East and Northeast Planning Region will be prepared and technical specification for procurement of waste collection and transportation equipment will be defined.

Main problems regarding the waste management in Republic of North Macedonia are: only one landfill ("Drisla" Skopje) meets the standards for disposal of waste on national level, mostly of the rural settlements are not covered by the communal services, old waste vehicle fleet, no primary selection on the source of waste generation, there are no formal collection systems for construction and demolition waste, some existing used waste trucks cannot be driven on the small streets in the settlements, some municipalities do not have separate municipal inert waste landfill dedicated only to the disposal of inert waste, lack of public awareness of the population on potential human health risks and environmental risks during the improper disposal of the various waste streams (near rivers, roads, on agricultural land, near wells, etc.).

2.2.4 Air Emissions and Air Quality

Air emissions are a consequence of several factors which due to their complexity are difficult to alleviate/eliminate. The main factors contributing to air pollution are: the industry sector, the energy sector, the transport sector, the agriculture sector, waste management, climate conditions and terrain configuration as driving forces that are the cause of environmental impact / pressure to the environment and air quality in general.

The horizontal dispersion of the pollutants depends on the turbulence of the atmosphere and the topography of the terrain, but above all from the winds, that is, the intensity, direction and direction of the air masses.

Change in temperature with altitude change is one of the most important factors that influence the vertical dispersion of the polluting substances. When the flue gases emit vertically upward, in most cases there is an increase in their volume, that is, their spread and cooling. The state of the atmosphere, expressed through its stability, indicates whether the outer air supports or limits the dispersion of the pollutants in a vertical direction.

The ambient air quality in Republic of North Macedonia is continuously monitored and reported by the Ministry of environment and physical planning, the sector of Macedonian Environmental Information Centre (MEIC).

The inventory of air pollutants is prepared according the requirements of the Convention on Trans-Boundary Air Pollution Transmission and Protocols which the Republic of Macedonia has ratified in 2010.

The emissions of pollutants from sources of pollution such as transport, industry, agriculture transmitted over long distances and significantly affect air quality and therefore have impact on vegetation, animals and population. It is therefore necessary to control their emissions and to reduce the discharged amounts in the air.

The air pollution is a serious problem in the bigger cities in the country. This problem is particularly accentuated in winter period when the polluted air is present during long period of days and the estimated damages of this situation are very considerable. Traffic congestion increases vehicle emissions and degrades ambient air quality, and recent studies have shown excess morbidity and

mortality in the capital Skopje as a result of polluted air.

The Ambient Air Quality in Macedonia varies according to the location of the measuring point with main contribution to the quality of ambient air affected by the concentration of population, the vicinity of industrial capacities, type of production and type of produced products, production of energy, transport of goods and people. There is a state air quality monitoring network consisting of 17 automatic monitoring stations (measuring on line concentrations of SO2 [µg/m3], NO2, NOx, NO [µg/m3], CO [mg/m3], O3 - ozone [µg/m3], SPM – suspended particulate matters (PM 10/opt. PM 2.5) expressed in µg/m3. The heavy metals (arsenic, nickel, cadmium) have been monitored as well.

The monitoring stations are located as follows: 5 measuring stations in Skopje, 2 measuring stations in Bitola, 2 measuring stations in Veles, 2 measuring stations in Ilinden (installed in village Miladinovci and village Mrshevci near the OKTA refinery), and one measuring station in Kicevo, Kumanovo, Kocani, Tetovo, Kavadarci and the village of Lazaropole (Figure 6).

Air quality shows no increase above concentration limit values and alert thresholds for SO_2, NO and CO. According to the requirements of the national legislation on total air emissions of the main pollutants and the last three protocols of the Convention for transfer of air pollution in transboundary context, the ceilings of the main pollutants (SO_x, NO_x, NMVOC, NH_3) and the heavy metals (Pb, Cd and Hg) and the non-soluble organic matters (PCDD/PCDF, PAHs and HCB) have not been reached in comparison with the emission ceilings in 1990 (as base year). However, the monitoring data from 2017 show that the most critical is presence of particulate matters.[12] Average annual concentrations of PM_{10} exceed the annual limit value (40 µg/m^3) in all monitoring stations located in urban areas in all years from 2005 till now. $PM_{2.5}$ follows the trend of PM_{10} and remains a challenge for the future. During the summer period, increase of ozone has been noted, due to increased sun radiation.

According to a survey done in 2015 (State Statistical Office, 2015) from the total number of households, 62% use wood as the primary source of heat, 29% use electricity, 8% are connected on central heating, while the other 1% use other types of heat sources.

Suspended particles are the most critical pollutant in our country that affects human health. Suspended particle concentrations in the country are high, especially during the winter months, when they significantly exceed the limit values defined in national legislation. The main source of suspended particles is heating in households. Industry and traffic are also important sources of suspended particles.

Air quality shows no increase above concentration limit values and alert thresholds for SO_2, NO and CO. Exceeding of PM_{10} daily limit values resulted in exceeding of the annual average limit value. $PM_{2.5}$ follows the trend of PM_{10} and remains a challenge for the future. Average annual concentrations of PM10exceed the annual limit value (40 µg/m^3) in all monitoring stations located in urban areas in all years from 2005 till now.

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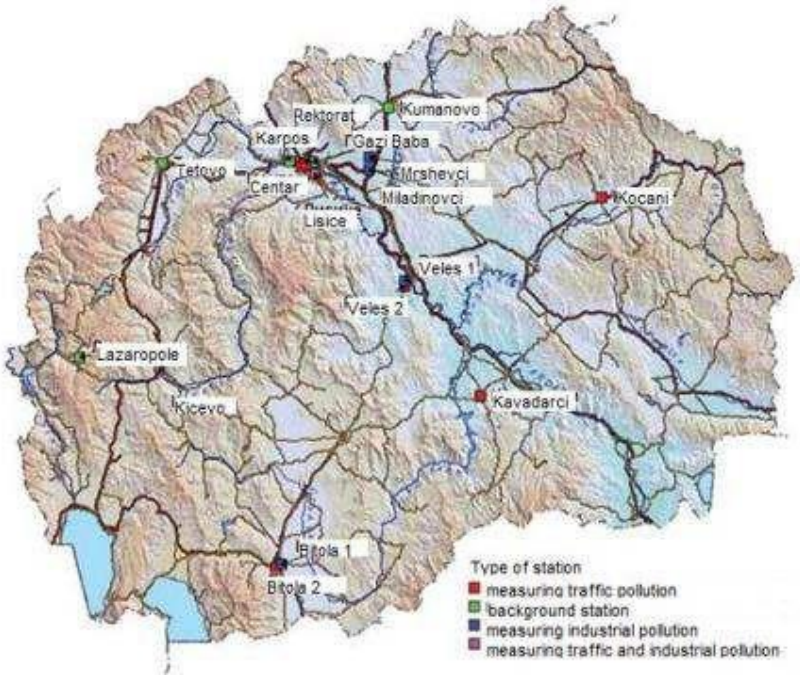
[12] Annual State of Environment Report, 2018, Ministry of Environment and Physical Planning, Macedonian Environmental Information center

Figure 9: Monitoring stations in the Republic of Macedonia



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2.2.5 Noise

Transportation is the main source of noise pollution and road traffic, the major cause of human exposure to noise, except for people living near airports and railway lines. Measurement and monitoring of noise is needed to achieve and maintain noise levels in the environment within the limit values defined in four areas according to the degree of protection against noise, with the ultimate goal of protecting the health and well-being of the population.

These areas are:

- *Area with a first degree of noise protection*, includes areas of tourism and recreation, areas near health institutions for hospital treatment, and areas of national parks and natural reserves;
- *Area with a second degree of noise protection*, includes areas primarily intended for residential use, residential districts, areas in the vicinity of educational institutions, educational facilities and social protection services for adults and children;
- *Area with a third degree of noise protection*, correspond to an area where some human activities with noise disturbance are accepted. These include commercial areas, areas with mixed housing/residential, craft activities and production activities (combined areas);
- *Area with fourth degree of noise protection*, correspond to an area in which actions are allowed that can cause the appearance of greater environmental noise. It includes non - residential areas exclusively intended for industrial activities.

The noise limit values for each of above mentioned areas are prescribed within the national legislation.

The responsible authority for collecting data for noise exposure indicators and the percentage of noise-exposed population is MoEPP. Authorized and accredited laboratories for noise exposure assessment obtain data for noise exposure indicators in collaboration with responsible bodies, like MoEPP for major roads, major railways and major airports, local government for agglomeration and settlements. Laboratories for noise measurements are allocated in public health centers and consultant companies for environmental risk assessment. Some of them are already accredited by the National Institute of Accreditation.

In the Republic of North Macedonia, strategic noise maps for agglomerations, major roads, major railways, major airports, settlements and areas of special interest have not yet been prepared, so there are no available data for noise-exposed population and the public is not informed about the current status for noise exposure. National limit values for the prevention of adverse noise-related effects were established in compliance with WHO recommendations by the Ministry of Health and MoEPP.

Data based on strategic noise maps (number and percentage of people exposed to 55 dB(A) and more in major agglomerations, around major roads, major railways and major airports) are not available. Data for noise levels in urban centers such as Skopje, Bitola and Kumanovo based on local noise monitoring are available, but data for the percentage of exposed population are not available. The Centers for Public Health in Bitola, Kicevo and Kumanovo assess the impact of communal noise on the exposed population in the cities.

The noise intensity is shown through the basic noise indicators through day-LD, evening-Le and overnight-Ln, expressed in dB (A), defined in the Rulebook for noise indicators, additional noise indicators, the method of noise measurement and assessment methods with noise indicators in the environment. According the registered noise levels measured in city area of Bitola, Kumanovo and Kicevo can be concluded that noise level exceeds the defined limit values especially during the nights.

2.2.6 Biodiversity and Nature Protection

The Republic of North Macedonia holds rich and unique biodiversity as a result of its complex geography and the combination of continental and Mediterranean climate. The biodiversity is represented with almost 22.000 species from which over 1.000 species are endemic. In addition, the country has numerous relicts and endemic species for which is an “European hotspot”. At present, on the territory of Macedonia have been identified over 2.000 species of algae and fungi, 3.200 vascular plants, 500 species of moss, 13.000 invertebrate species, 85 species of fish, 14 amphibians, 32 reptiles, 335 birds and 89 mammals. Of significant importance are the endemic species from which 150 are endemic algae, 120 endemic vascular plants, over 700 invertebrates and 27 endemic fish species.

The territory of Macedonia holds 120 habitat types and 28 types of ecosystems, from which the Ohrid and Prespa Lakes are from both national and global significance.

The largest numbers of endemic algae species are found in the Ohrid and Prespa Lake, and fewer in Dojran Lake and Shar Mountain.

The plants are represented with numerous Balkan and south Balkan endemic species as well as a large number of local endemic species and sub endemic species. The total number of identified local endemic plant species amounts to 120. Some of these species are originate from the tertiary period and are defined as paleoendemic species (endemorelict species) such as: *Thymus oehmianus, Viola kosaninii, Crocus cvijici, Crocus scardicus, Colchicum macedonicum, Narthecium scardicum* and

others. A rare speciesthat grows only in few localities in the vicinity of Pehchevo is *Drosera rotundifolia*. The unsuitable protected is one of the main reasons for population fragmentation of some rare and/or endemic plant species: *Nuphar lutea* (Ohrid Lake, at vil. Kalishta), *Thymus oehmianus* and *Viola kosaninii* (Kozjak accumulation) and *Phyllitis scolopendrium* (St. Petka accumulation).

The fauna is presented with over 550 endemic species. The sponges are presented with 6 endemic species, Mollusca 92 endemic species, Annelida 49 endemic species, Pseudoscorpiones 16 endemic species and others.

Three (3) amphibian species represent Balkan endemic species (*Triturus macedonicus, Rana graeca* and *Pelophylax kurtmuelleri*). Several amphibian subspecies represent species with limited distribution areal limited to the Balkan: *Lissotriton vulgaris graecus*, *Pelobates syriacus balcanicus* and *Bombina variegate scabra*. Three (3) are protected with the Habitat directive: *Triturus carnifex, Triturus karelinii* and *Bombina variegata*.

The main threat for biodiversity is the desiccation of wetlands, which has caused reduction of areas inhabited with relict wetland vegetation. The agriculture sector by abandonment of traditional use of meadows and pastures causes landscape changes though succession and change in the biodiversity structure. The industry sector causes the degradation of large areas through mine waste deposition, technological waste, industrial landfills with non-hazardous and hazardous waste, and lack of re-cultivation of abandoned pits and landfills, which causes loss of habitats important for a large number of biodiversity. The urbanization poses additional stress on biodiversity by the direct conversion of natural land into urban areas as well as by species disturbance caused by usually uncontrolled and discontinued urbanization and untreated wastewater discharge. The tourism sector also can affect biodiversity, especially with unplanned construction of tourist objects that can degrade the ecosystems and the biodiversity they contain. The construction of hydropower systems in the river gorges causes flooding of important refugial habitats for significant relict and endemic flora. The intensive development of the transport sector frequently causes habitat fragmentation and this negatively affects the biodiversity.

Three national parks have been recognized in the Republic of North Macedonia: Mavrovo (731 km2), Galicica (227 km2) and Pelister (125 km2). All three parks are heritage sites of nature and culture. National parks offer great possibilities for the development of tourism, the preservation and scientific research.

In the past five decades of organized protection of natural areas in the country, 86 protected areas were classified with a total area of 230.083 hectares, or 8,9 % of the national territory. The largest part of the protected land is Category II – National Parks (4,47%), Category III – Nature Monument (3,07%) and Category VI – Multi-purpose area Jasen (0,97).

2.2.7 Seismic Hazards

The territory of Macedonia, situated in the Mediterranean seismic belt, is quoted as an area of high seismicity. In the seismic history of Macedonia, the Vardar zone appears as a region where earthquakes occur quite frequently, and the Skopje region is considered to be the most mobile part of the Vardar zone[13].

The seismicity of Macedonia is related to destructive tectonic processes associated primarily with

[13] Seismic Hazard and Countermeasures in the City of Skopje, Zoran MILUTINOVIC, 1998

vertical movement of tectonic blocks. Two regions of specific neotectonic features are well distinguished: West Macedonia, characterized by longitudinal (NE-SE), and Central and East Macedonia with transverse (E W) stretching of principal tectonic morphostructures. The boundaries between these two regions is represented with relatively stable Pelagonian massif.

Earthquakes of magnitudes 6.0 to 7.8, from ten seismic zones have been historically experienced throughout the country. The strongest earthquakes occurred in Pehcevo-Kresna (1904, M=7.8) and Valandovo-Dojran (1931, M=6.7) seismic zones. During the last 100 years few destructive, even catastrophic earthquakes, have been affecting the country.

Moderate scale earthquakes (M<6.0) can cause serious problems, even devastation, in Macedonia and the rural regions in the vicinity of the City of Skopje, since the traditional houses, particularly in the rural regions, are too weak to sustain them without substantial damage. Earthquakes of magnitudes greater than 6.0 on the Richter scale are rather infrequent. However, when they occur, due to the structural weakness of prevailing traditional urban and rural building typology constructed prior to 1964, a widespread devastation might be expected in regions affected. The earthquakes with magnitudes M=6.9- 7.9 expected from the Pehcevo-Kresna and Valandovo-Dojran seismic zones (Table 1) will be catastrophic not only for Macedonia, but for the entire Balkan region (Bulgaria, Greece and Serbia), creating probably the largest natural disaster effects ever occurred in Europe.

Although the seismic history of Macedonia must have been rich with the occurrence of medium-to-strong earthquakes, there is very incomplete documentation on these phenomena until 1905 when the Seismological Institute of Belgrade was founded.

Prior to 1900, the seismic history of Skopje, as part of the Vardar seismic zone, is practically reduced to a rather brief description of the earthquake catastrophes of Scupi in 518 A.D. and that of Skopje in 1555. The old Scupi was situated about 4-5 km northwest of the center of the present Skopje. As ground fissure extending over 45 km in length and up to 4 meters in width are reported for this earthquake, it seems that it is the strongest shock that has ever occurred in Macedonia. The earthquake of 1555 is said to have demolished a part of Skopje. Both earthquakes are estimated to be of an intensity of XII MCS (catalogues of the Seismological Institute of Belgrade). However, it is believed that the reported values are certainly overestimated.

During this century, the region of Skopje was affected by a series of damaging earthquakes, centered at the village of Mirkovci (42° 06’ N, 21° 24’ E), which lasted from August to September 1921 with a magnitude of 4.6 to 5.1 and intensity of I = VII-VIII degrees MCS scale. Besides the local earthquakes, the region of Skopje has suffered several times from relatively distant earthquakes, e.g., from the Urosevac-Gnjilane region in southern Serbia, like in 1921.

In 1963 earthquake (M=6.1, I=IX-X MCS) the City of Skopje was devastated. About 77.4% of total building area (including dwelling houses) was destroyed or heavily damaged and 75.5% of inhabitants were left homeless. The direct economic losses were estimated at 1 billion 1963 US$, or at 15% of the GNP of former Yugoslavia for the year of 1963.

The studies on occurred seismicity indicate that only in this century the entire territory of Macedonia have been exposed to intensities larger than VI, 97.8% to intensities equal or larger than VII, 52.2% to intensities equal or larger than VIII, 14.0% % to intensities equal or larger than IX, and 3,9% to intensities equal or larger than X.

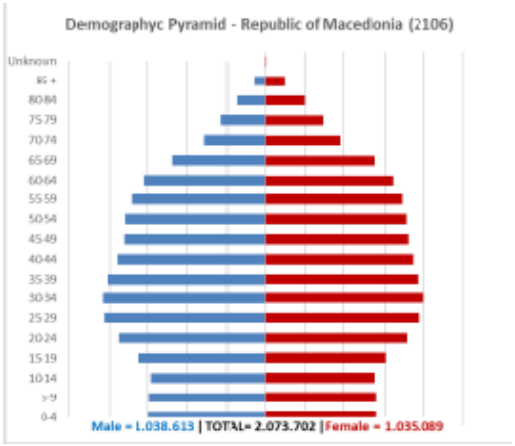
2.3 Baseline Social Data

2.3.1 Demography

General demographic situation in Republic of North Macedonia is following the common trend line as in the most EU countries, where the process of aging of population is in its peak. Though there is an evident growth of the number of population, there is a low crude birth-rate, which in a long run can cause population decline.

The process of growth/shrinking of population can be illustrated throughout so called "Population Pyramid". A population pyramid, (age pyramid), is a graphical illustration that shows the distribution of five-years age groups of population in Republic of Macedonia. The following figure states the population distribution in Republic of North Macedonia on 31 December 2016, by five-years groups and gender.

Figure 10 Demographic pyramid of Macedonia, as of 31.12.2016



(Source: State Statistical Office's web database)

This population pyramid shows the distribution of men and women by different age cohorts. The shape can be described as a "constrictive pyramid", which is typical of developed societies with low fertility and mortality rates and with relatively older populations. The population aged 15–65 years is 70%, whereas nearly 13% of the total population is over 65 years old. There are 343.319 children aged 0–15. The male:female ratio in RM is 1.003 (49,9% female), which differs from the ratio in first age of life, which is 1,07.

Republic of North Macedonia since the last successfully held Census in 2002, recorded increase in number of population for 51.155 individuals (2,5%), thus increasing the population density for two more individuals per m2 (from 79 in 2002, to 81 in 2016).

Overview of the natural change in population for year 2016, according to the official figures of State Statistical Office, shows that the Natural increase per 1000 inhabitants is 1,2 people (Live births per 1000 inhabitants = 11,1 minus Deaths per 1000 inhabitants = 9,9). For the same period there are 23002 live births and 20421 deaths (273 infants), which makes natural increase of 2581 people. Rate of Infant deaths per 1000 live births was 11,9 (273/23002) which is three times higher than the average value in European Union. In 2016 there were 13199 marriages and 1985 divorces.

Total fertility rate for 2016 is 1.5 children per women, where Skopje region leads with 1.9 children per women, followed by Vardar region with 1.6 children per women and Southeast regions with 1.5 children per woman. The lowest fertility rate has been noted in the regions Polog and Southwest, with 1.2 children per woman.

Lowest Average life expectancy at birth in 2015, in Republic of North Macedonia was 75,5 years (female 77,4 years).

According to the census in Republic of North Macedonia, there were 2022547 citizens, of which 64.18% are of Macedonian ethnic origin, 25.17% of Albanian ethnic origin, 3.85% of Turk ethnic origin, 2.66% of Roma ethnic origin, some 1.78% of Serbian ethnic origin etc. Since 2002 these figures experienced some changes, but the expecting successful realization of Population and Dwelling Census, will draw the exact contours of population living in the Republic of North Macedonia.

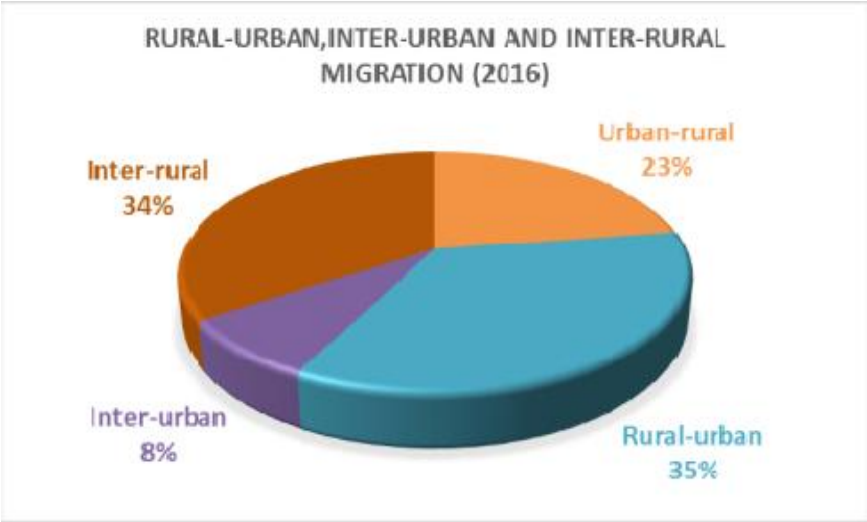
The highly sensitive and most avoided burning social topic for discussion in the public is the process of migration of the domestic citizens, particularly the external migration.

External migration, for the period of five years (2012/16), registers significant decrease in figures. Namely, number of emigrants dropped from 1330 in 2012, to 440 in 2016. This is a highly desired trend of dropping figures, particularly after an intensive period of two decades of rise of the number of emigrants from Macedonia. The number of returning citizens of Republic of North Macedonia is also dropping, but the number of foreigners with temporary stay, as well as foreigners with extended stay is on the rise. The total number of external migration of the citizens is on the rise throughout the period of 2012-2016.

Internal migration of the population in Republic of North Macedonia is dominant way of migration of the citizens. Some 77,3% of all (8887) internally migrated persons have changed the municipality of residence, while the remaining 22,7% moved within their municipality. Whilst the figures of migration between the municipalities in 2016 experience quite similar numbers for the past 5 years, the figures of migration within the same municipality record increase for some 34%, compared to 2012 year. This means that the internal migration registers change in dwelling location.

In 2016, the State Statistical Office registered 4565 internal migrations. These migrations were divided in four categories: Urban-rural, rural-urban, Inter-urban and Inter-rural. The rural - urban migration in 2016 holds the highest number in overall internal migration figures with 1597 cases, followed by inter-rural migration with 1567 cases. Rural-urban migration is present in all eight regions with 10-16% and the most affected regions are East and Northeast Regions. Inter-rural migrations are most evident in the Polog region, where some 30% of the total cases occur. Southeast region holds 19% of all inter-rural migration cases. Within the regions, each region has different patterns of internal migration. In Vardar region, the most present pattern of internal migration is Rural-urban (42%), followed by Urban-rural migration with 28% of all cases in the region. In the East region, the population is more prone to rural-urban type of migration which includes almost half (47%) of the cases in the region. In South-west region inter-rural migration is leading with 35% of the migration cases, followed by Rural-urban migration. Almost half of the migration cases (47.5%) in South-east region are conducted inter-rural, followed by rural- urban migration with 30% of all cases in the region. In Pelagonia region the urban-rural pattern of internal migration leads with 39%. The Polog region holds the highest figures in internal inter-rural migration with 58% of all cases in the region. Northeast region's pattern of internal migration is based on significant figures (44%) of rural-urban migration, followed by inter-rural migration (31%). The following figure 11 gives overview of the overall distribution of internal migration cases in the country.

Figure 11: Rural and Urban migration in Republic of North Macedonia (2016)



(Source: State Statistical Office's web database)

2.3.2 Economy and Livelihood

Republic of Macedonia has focused all its strengths and potentials in economic development and creation of favorable business environment. But, political uncertainty took a toll on growth in 2016 and early 2017, and recovery is expected as confidence is being restored. Growth fell to 2.4% in 2016 (from 3.8% in 2015), supported mainly by household consumption linked to rising employment, wages, pension and credit capabilities.

Concerns about the political situation had begun to affect investment, which subtracted 1.3 percentage points (pp) from growth in 2016. Net-exports added 0.7 pp, supported by foreign directive investment (FDI)-related and services exports propelled by the euro area recovery[14].

Affected by the political uncertainty in the first half of the year, growth is expected to decline to 1.5% in 2017 but expand in 2018, respectively. The main drivers are expected to be consumption (fueled by growing employment) and investments, both public (road infrastructure projects) and private (which is expected to pick up as confidence is restored). Public investment in infrastructure should sustain employment creation.

Macedonia's economic freedom score, according to the Heritage Foundation[15], is 71.3, making its economy the 33rd freest in the 2018 Index. Its overall score has increased by 0.6 point, with improvements in scores for the fiscal health and investment freedom indicators offsetting declines in government integrity and judicial effectiveness. Macedonia is ranked 18th among 44 countries in the Europe region, and its overall score is above the regional and world averages.

Table 1: Main macroeconomic indicators (in %)[16]

[14] The WB in RM. Country Snapshot – October 2017

[15] ***https://www.heritage.org/index/pdf/2018/countries/macedonia.pdf***

[16] Source: Transition Report 2017-18. Country assessments: R. Macedonia, EBRD

Main macroeconomic indicators	2013	2014	2015	2016	2017 projected
GDP growth	2.9	3.6	3.8	2.4	1.5
Inflation (average)	2.8	-0.3	-0.3	-0.2	0.3
Government balance/GDP	-3.8	-4.2	-3.5	-2.6	-3.5
Current account balance/GDP	-1.6	-0.5	-2.1	-3.1	-2.3
Net FDI/GDP [neg. sign = inflows]	-2.8	-2.3	-2.2	-3.6	-2.8
External debt/GDP	66.1	64.9	68.1	70.0	n.a.
Gross reserves/GDP	25.2	26.4	26.4	21.8	n.a.
Credit to private sector/GDP	46.1	48.2	49.9	46.3	n.a.

Growth slowed down in 2016. The robust economic performance of 2014 and 2015, when annual growth was between 3.5 and 4.0 per cent, came to an end in 2016, as the economy grew by just 2.4 per cent. The prolonged political crisis had a measurable negative impact on confidence and thus on economic performance, with a number of construction projects being delayed. Inflation stayed negative in 2016 for the third year in a row, averaging -0.2 per cent. The economy declined by 0.9 per cent year-on-year in the first half of 2017 as public and private investment levels remained depressed. The resolution of the political crisis is expected to pave the way for a restoration of confidence.

Basic economic indicators compared on a period of five years, for the past decade, are presented on the following table 2.

Table 2: Basic economic indicators[17]

Basic economic indicators	2007	2012	2017	2018
Population (31 December)	2 045 177	2 062 294	2 075 301	2 077 132
Annual growth rate of consumer prices, %	2.3	3.3	1.4	1.5
Industrial production index	103.9	97.2	100.2	105.4
Unemployment rate	34.9	31	22.4	20.7
Gross domestic product at current prices (in million Denars)	372 889	466 703	618 106	658 053
Real GDP growth rate, %	6.5	-0.5	1.1	2.7

The structure of GDP in 2014 and 2015 was dominated by the section Services with 53.8% and 54.2%, respectively. The sections Mining and quarrying; Manufacturing; Electricity, gas, steam and air conditioning supply; Water supply; sewerage, waste management and remediation activities; and Construction participated with 22.8% and 23.2% in 2014 and 2015, respectively. Agriculture, forestry and fishing had a share in the structure of GDP of 10.2% in 2014 and 10.0% in 2015.

[17] Sources: Macedonia in figures, 2017. SSO

Table 3: Basic data on Gross Domestic Product[18]

Gross Domestic Product	2015	2016	2017	2018
Gross domestic product at market prices in current prices (in million Denars)	558 954	594 795	618 106	658 053
real growth rate (in %)	3.9	2.8	1.1	2.7
in million Euros (at current exchange rate)	9 072	9 657	10 038	10 698
per capita in Euros (at current exchange rate)	4 382	4 659	4 839	5 153
GDP in million PPS	21 642	22 564		
GDP per capita in PPS	10 500	10 900		

Skopje planning region, for year 2015 participates with 42,9% of the total GDP and the smallest share to the total GDP is contributed by the North-east planning region.

Unemployment continued to fall, helped by fiscal interventions to encourage job creation. Employment grew 2.5% year-on-year (y-o-y) in 2016 and 2.7% in the first half of 2017 Labor force participation stood at around 57% in 2016 and early 2017, the lowest rate since 2012.

The unemployment rate fell to 22.8% in the first half of 2017, a historic low. Despite government efforts, youth unemployment and long-term unemployment remain high at 46 and 81%, respectively[19].

The state of available workforce, along with the unemployment rate, on a period of five years, for the past decade is presented on the following table.

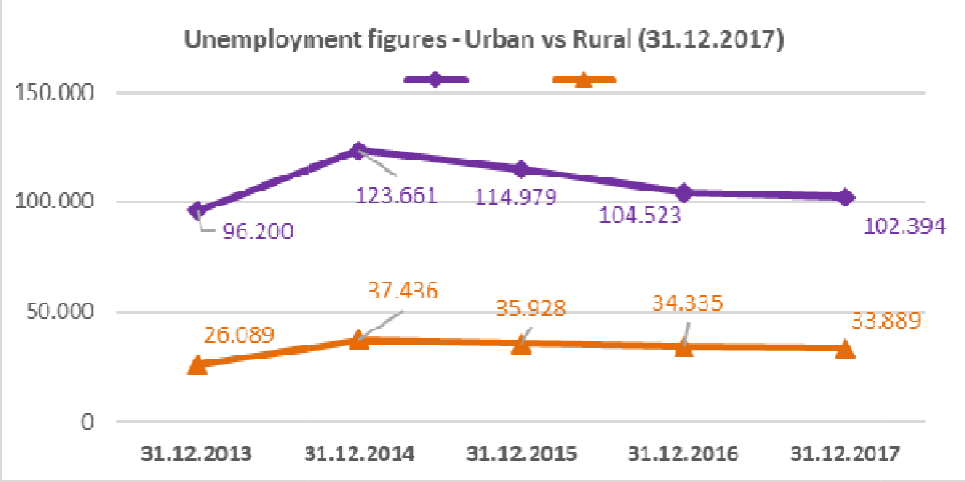
Table 4: Main macroeconomic indicators (in %)[20]

Main macroeconomic indicators (in %)	2007	2012	2017	2018
Labour Force	907 138	943 055	954 212	957 623
Men	548 141	573 498	582 773	582 559
Women	358 998	369 558	371 439	375 064
Unemployment rate	34.9	31	22.4	20.7
Men	34.5	31.5	22.7	21.3
Women	35.5	30.3	21.8	19.9

The following data presents the unemployment figures registered at the Employment Agency of Republic of North Macedonia, for a period of past five years.

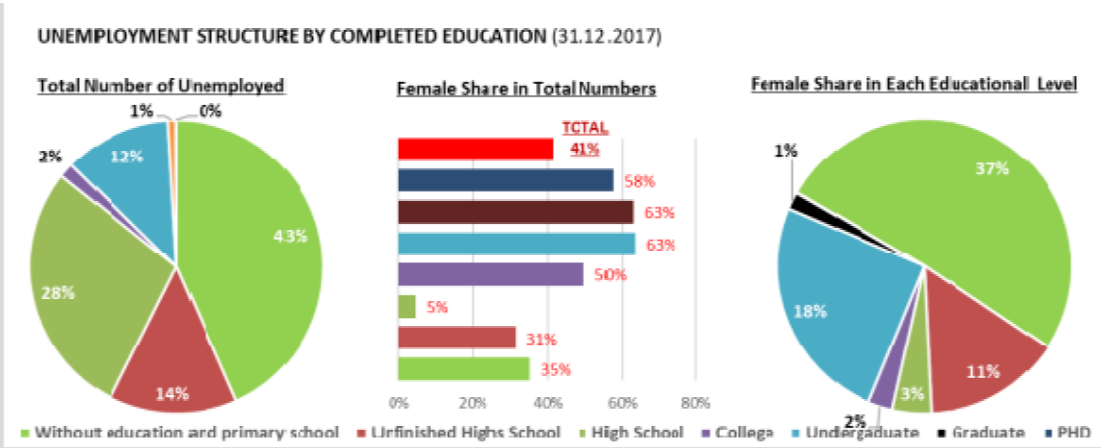
[18] Sources: Macedonia in figures, 2017. SSO
19 The WB in RM. Country Snapshot – October 2017
[20] Sources: Macedonia in figures, 2017. SSO

Figure 11: Unemployment figures in Republic of North Macedonia (Total and Rural)[21]



The structure of registered unemployed jobseekers, by educational background is presented on the following figure 12.

Figure 12: Unemployment structure in Republic of North Macedonia, by education and gender (31.12.2017)[22]



[21] Source: EARM website
[22] Source: EARM website

2.3.3 Education

(Sources: Macedonia in figures, 2017. SSO)

The Macedonian Constitution mandates free and compulsory education for a compulsory 9 years (usually between the ages of 6 to 15). It follows a 3-tier process, with elementary, secondary and then tertiary levels.

Primary (Elementary) education lasts for nine years leading to the Certificate for Completed Elementary Education. Secondary (High) school education is provided by high schools, technical and other vocational schools, and art secondary schools.

According to the data of the State Statistical Office, obtained on the basis of received reports in the Census of school premises of primary and lower secondary and upper secondary schools in the Republic of North Macedonia in 2016, the total number of primary and secondary schools is 1205.

Some 89.5% of the total numbers of schools are for primary (elementary) and lower secondary education and 10.5% are for upper (higher) secondary education. Best parts of these schools are regular schools (93.2% of primary and lower secondary schools and 95.3% of upper secondary schools).

The schools perform their educational activity in 1,342 school buildings. According to the year of construction/last reconstruction, adaptation or rehabilitation, the majority, or 984 school buildings, are from the period between 1998 and 2016.

There are 1078 Primary (Elementary) schools in the Republic of North Macedonia, of which 1,005 are regular, 45 are special, 16 are art schools and 12 are Schools for adults. All these schools are using in total 1,311 buildings/ schooling objects, of which 861 objects are constructed in the period 1998-2016, 115 are constructed in the period 1981-1997, some 74 schools are constructed between 1964 and 1980, 45 schools date from period 1946- 1963, 15 school objects are constructed in the period 1930-1945 and 4 school objects date from 1912-1929. The construction year of some 45 school objects is unknown.

During the Census of school premises of primary and lower secondary and upper secondary schools in the Republic of North Macedonia in 2016[23] some 678 facilities were noted to be in good condition, some 91 require major repairs, 346 are in need of reconstruction, adaptation or rehabilitation, while some 50 facilities are dilapidated and 1 was under construction.

In the school year 2016/2017 there were in total 192,715 Primary school students, of which some 93,334 (48,4%) are female. These children were taught by 17887 teachers of which 12,363 (69%) are female.

The following table 9 gives overview of the distribution of High Schools by municipalities.

As it is expected, the City of Skopje holds the biggest number of high schools in the Republic of North Macedonia. In total, there are 128 Secondary (High) schools in the Republic of North Macedonia, of which 121 are regular, 4 are special and 2 are Religious Schools. All these schools are using in total 179 buildings/ schooling objects, of which 123 objects are constructed in the period 1998-2016, 17 are constructed in the period 1981-1997, some 15 schools are constructed between 1964 and 1980 and 5 schools date from period 1946-1963. The construction year of some 16 school objects is unknown.

During the Census of school premises of primary and lower secondary and upper secondary schools

[23] http://www.stat.gov.mk/pdf/2016/2.1.16.36.pdf

in the Republic of North Macedonia in 2016, some 113 objects were noted to be in good condition, some 13 require major repairs, 42 objects are in need of reconstruction, adaptation or rehabilitation, and some 8 objects are dilapidated.

In the school year 2016/2017 there were in total 76,394 High school students, of which some 36038 (47,2%) are female. These children were taught by 7,420 teachers of which 4407 (59,4%) are female.

There are 13 Private High Schools in Republic of North Macedonia.

Higher education is provided by colleges and pedagogical academies offering two-year courses, as well as by two universities which offer four to six-year courses in a range of disciplines. Upon successful completion of higher education courses at university faculties/institutes, students are awarded a Diploma with professional title e.g. Engineer, Lawyer, Teacher, at the lower (college) level; Graduate Engineer, Graduate Lawyer, Graduate Teacher at the higher (faculty/institute) level.

There are 20 Higher education institutions in Republic of North Macedonia. Some 13 Higher education institutions are registered in Skopje, 2 in Tetovo, and 1 in each of the following six cities: Bitola, Shtip, Ohrid, Struga, SvetiNikole and Kumanovo. Six universities (two in Skopje, and Bitola, Tetovo, Shtip and Ohrid one each) are financed by the Government of Republic of North Macedonia. The remaining institutions are private.

Table 8: Public High Schools in Republic of North Macedonia[24]

Number of High Schools	Municipalities
1	Berovo, Bogdanci, Valandovo, Vrapchishte, Gevgelija, Debar, Delchevo, DemirHisar, Dolneni, Ilinden, Kratovo, KrivaPalanka, Krushevo, Lipkovo, Mavrovo i Rostuse, MakedonskaKamenica, Negotino, Probishtip, Radovish, Resen, SvetiNikole, CentarZupa
2	Kichevo, Kochani, MakedonskiBrod, Struga Kavadarci,
3	Strumica
4	Veles, Gostivar, Ohrid
5	Kumanovo, Prilep Shtip
6	Bitola, Tetovo
7	The City of Skopje
30	

There are two other Religious Higher Education Institutions Orthodox Christian Faculty and Faculty for Islamic Science.

On all Higher Education Institutions in Republic of North Macedonia there are in total 58,083 students, of which 32,297 (55,6%) are female. Most of these students (86,6%) are enrolled on the HEIs financed by the Government of Republic of North Macedonia. Some 58% of all students

[24] Source: Census of Schools, 2016. SSO

enrolled on the HEIs financed by the Government of Republic of North Macedonia are female. The Religious HEIs have 236 students of which 88 are female. The private HEIs enrolled some 7,535 students of which 40,5% are female.

According to the data of the State Statistical Office, the number of teachers and supporting staff in the Higher education institutions in the academic year 2016/2017 was 4114. Some 2,923 (71,1%) of the total number of teaching personnel and supporting staff are teachers, while 1,191 persons or 28,9% are supporting staff. The number of female teachers and supporting staff in the academic year 2016/2017 was 1,910 or 46,4%.

2.3.4 Social and Health Care

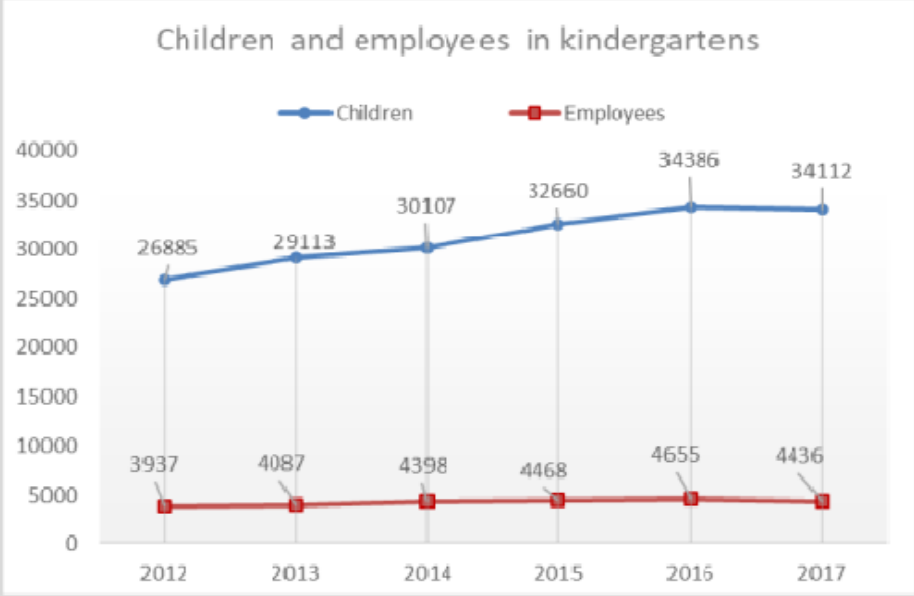
Republic of North Macedonia uses significant resources in improvements of Social and Health care of its citizens.

Social protection system in Republic of North Macedonia is organized in two modalities: Contributory and Non-Contributory parts.

Contributory part of the Social protection system in Republic of North Macedonia is referred to as social insurance: pension and disability insurance, health insurance and unemployment insurance. Non-contributory or tax-financed part of the system referred to as social welfare: social prevention, social assistance (SA), residential care, non-residential care and child protection.

State Statistical office, throughout regular annual surveys, collects statistical data on social welfare on children, youth and adults and child care.

Figure 13: Children and employees in kindergartens (2012-2017)[25]



According to the data of the State Statistical Office, in 2017 (reference date 30 September), the total number of children in institutions for child care and education - kindergartens / centres for early childhood development was 35,286 which represents an increase of 2.6% in comparison with 2016.

[25] Source: State Statistical Office's web database

The annual reports covered 99 institutions for child care and education in 2017, which is 3.1% more than in 2016.

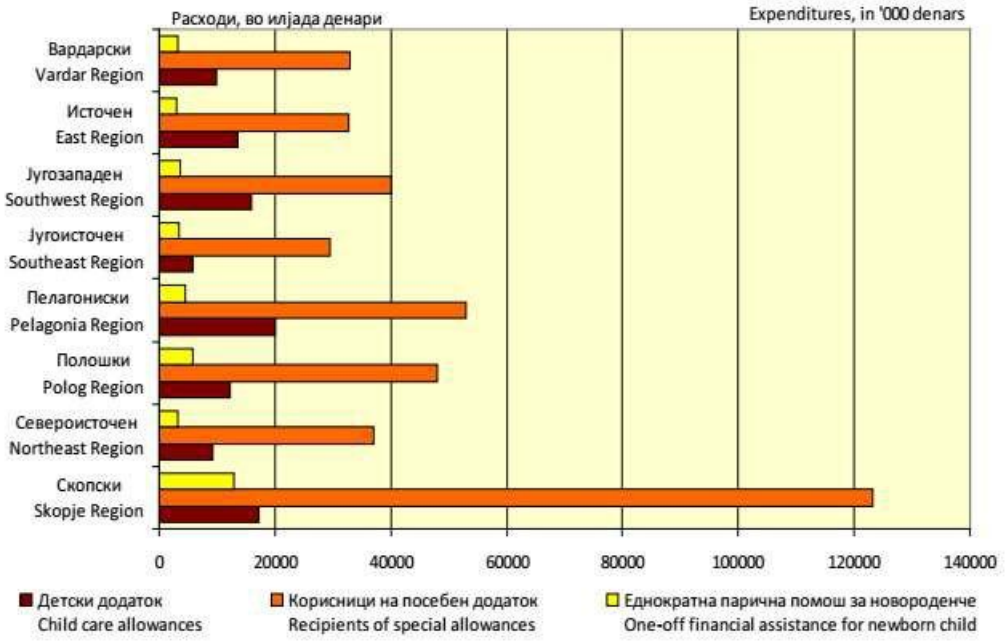
Institutions for child care and education - kindergartens / centres for early childhood development provide health care, food and daily stay for children in accordance with their development needs up to the age of 6 years, organised in several types of groups (groups for children in development stage up to 2 years of age, groups for children in development stage between 2 years of age and school age, combined groups, groups for children with disabilities, groups for children - centres for early childhood development within kindergartens and groups for extra-institutional forms of activity).

There are in total 99 Institutions for child care and education - kindergartens / centres for early childhood development kindergartens in Republic of North Macedonia, of which 64 are public, 22 are private kindergartens, 4 are kindergartens within private schools, 2 are Centres for early childhood development as public legal entities, 5 are Centres for early childhood development as private legal entities, 1 is Publicly owned kindergartens within legal entities for the needs of employees and 1 is Privately owned kindergartens within legal entities for the needs of employees.

The social care on a general level is conducted by institutions called Intermunicipal Centres for Social Work. These are institutions through which social welfare is provided, involving social work in one or more municipalities. The location of most Intermunicipal Centres for Social Work is organized in accordance with the typology of settlements.

Namely, each urban centre covers the rural parts and rural municipalities. So, there are 30 Intermunicipal Centres for Social Work, with total number of 1116 employees, of which 731 are female.

Figure 14: Children's allowances 2016[26]



According to occupation (educational background) of the employees in all 30 Intermunicipal

[26] Source: Social welfare for children, juveniles and adults, 2016

Centres for Social Work throughout the country, majority (452=41,4%) of the employees have other educational background. The remaining part of employees in the Intermunicipal Centres for Social Work is consist of 260 Social workers, 260 Social workers, 80 Psychologists, 55 Pedagogues, 49 Sociologists, 37 Special Education Teachers, Speech-language Pathologists, 31 Medical workers, 93 Lawyers and 54 Economists.

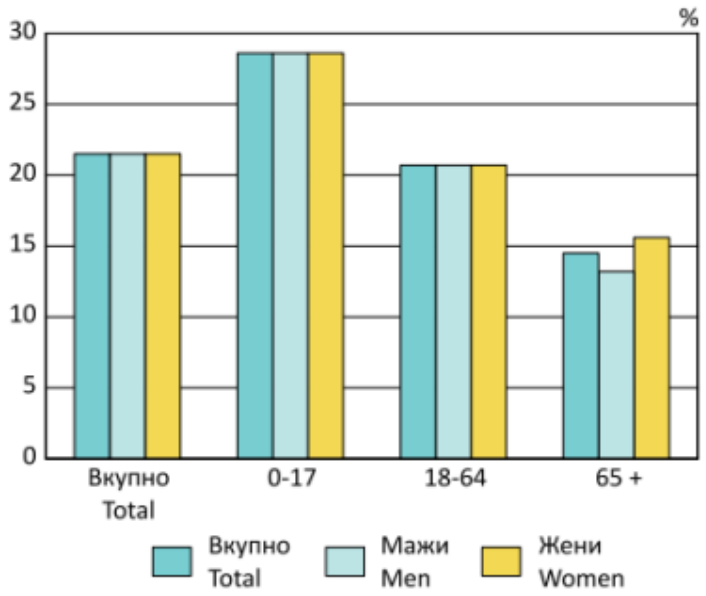
In 2016 there have been 10,382 juvenile recipients that were using services of social welfare. Figure 14 below presents the distribution of Children allowances by region, in 2016.

Social inclusion as a sustainable development challenge has an objective to create a socially inclusive society by taking into account solidarity between and within generations and to secure and increase the quality of life of citizens as a precondition for lasting individual well-being. Social inclusion means access to the labour market, education, health and social care.

Social inclusion and poverty are also closely related to socio-economic development, since a weak economy creates huge and long-term unemployment. Poverty burdens the economy, whereas the increased number of persons with low educational attainment decreases the capability of the economy to engage its human resources in improving the economic welfare and in generating GDP growth. Social exclusion is also related to demographic changes. An increase of social transfers aimed at social cohesion of older persons as a vulnerable group will reflect negatively on the sustainability of public funds. Poverty is closely related to the sustainable consumption and production models.

The **People at-risk-of-poverty rate** or **social exclusion indicator** represents the percentage of persons who are: at risk of poverty, severely materially deprived or living in households with low intensity of economic activity. According to the aggregate indicator, in 2015, about 41.6% of the population was at risk of poverty or social exclusion. Available data for EU show a similar situation in Serbia and Bulgaria (41.3%), Romania 37.4%, Greece 35.7%, while in Turkey it was 51.2% in 2013.

Figure 15: At-risk-of-poverty rate by age and gender, 2015[27]



[27] Source: Sustainable development, 2017

The indicator **At-risk-of-poverty rate before and after social transfers** is defined as a percentage of persons with an equivalent disposable income below the risk-of-poverty threshold, which is set at 60% of the national median equivalent disposable income (before or after social transfers). The following figure compares different age groups and gender.

The at-risk-of-poverty rate before social transfers decreased by 1.2% in 2015, while the at- risk-of-poverty rate measured after social transfers, as a meaningful measure of poverty, decreased by 0.6%. In general, gender did not affect the poverty rate in 2015. The lowest poverty rate was recorded among persons aged 65+, who primarily rely on pensions and social transfers, and particularly in men (13.2%).

The healthcare system consists of three segments: primary, secondary and tertiary health care. The primary health care in Macedonia is provided through a network of private and public health care: walk in clinics and health centres. The system of primary health care includes preventive, promotional and curative services through different profiles of health workers and allied professionals: doctors, specialists in general practice dentists and paediatricians, specialists in school medicine, gynaecologists and specialists in occupational medicine. The secondary health care is provided through a system of specialist advisory services, general and specialist hospitals, offices and institutes. The tertiary health care is practiced in clinical hospitals and the University Clinical Centre in Skopje. These two levels are responsible for providing preventive, curative and rehabilitation health services by various specialists and subspecialists. Macedonia has a comprehensive system of health care, geographical and financial access, control of communicable disease and almost complete national vaccine coverage.

Table 9: Medical personal in health institutions in Republic of North Macedonia[28]

Republic of North Macedonia, 2015	
NUMBER OF DOCTORS	
Number of residents per 1 doctor	346,5
Total number of Doctors	**5975**
General Practice	1875
General Practice (% of the total number of Doctors)	31,4%
At Specialization	565
At Specialization (% of the total number of Doctors)	9,5%
Specialists	3704
Specialists (% of the total number of Doctors)	62,0%
Number of Dentists	**1824**
Number of residents per 1 dentist	1135,0
Number of Pharmacists	**1029**

[28] Source: Health Map of the Republic of North Macedonia, 2015

Number of residents per 1 pharmacist	2011,9
STAFF IN THE MEDICAL UNITS IN RURAL AREAS	
Permanent Doctors	310
Periodical Doctors	4
Health workers with High School and Vocational school	342
Hot spots	231

The health care system is mainly financed by compulsory health insurance, which creates opportunities for all citizens to have health insurance. Compulsory health insurance is financed by means of deductions from the salary, designed for health insurance, the amount of which is determined by the National Assembly. Furthermore, Macedonia's state budget provides funds to cover health costs insurance for those citizens who are not eligible for health insurance under which any of the above reasons, including groups such as children under the age of 18 (and 26 if they are studying); pregnant women, nursing mothers; People older than 65 years, etc.

Accessibility of health services, going beyond just physical access, and including economic, social and cultural accessibility and acceptability, is of fundamental significance to reflect on health system progress, equity and sustainable development. In 2016, 90.2% of the population in the Republic of North Macedonia had access to primary health care facilities, which is 1.6% higher than in the previous year[29]. Latest figures published by the Health Insurance Fund of Macedonia states that in 2016 there were 1,872,466 (of 2,073,702) citizens with health insurance.

Most of the health personnel is with higher-level qualification (3,170 people), supported by health personnel with mid-level qualification (161 people). There are in total 9084 hospital beds, which make 4 hospital beds per 1,000 populations.

The following map (presented in Figure 16) shows the territorial coverage of the health needs of population by the health organizations in 2015.

There are 5 Health stations, 34 Health Centres and 7 Out-of-hospital stationary units within health Centres as a part of the Health institutions network in primary health care in the Republic of North Macedonia, in 2015.

Also, 931 General medicine services, 17 Occupational medicine services, 110 Health care services for children aged 0-6, 38 Health care services for school children and youth, and 131 Health care service for women represent the network of medical organizational units – locations in primary and preventive health care in the Republic of North Macedonia, in 2015.

The network of health institutions in secondary health care in the Republic of North Macedonia, in 2015 is comprised of: 14 General hospitals, 4 Clinical hospitals, 10 Institutes for health protection, 6 Rehabilitation and treatment centres, 2 Special hospitals for pulmonary diseases and TB, 2 Special hospitals for psychiatric diseases, and 6 Other special hospitals. The Number of beds in inpatient institutions on secondary level in the Republic of North Macedonia in 2015 is 5936, or 2,9 per 1000 inhabitants.

[29] http://www.stat.gov.mk/Publikacii/OdrzlivRazvoj2017.pdf

Figure 16: Network of health organizations in Republic of North Macedonia, 2015[30]

2.3.5 Cultural Heritage

The position of Republic of North Macedonia has always been an important territory, where different civilizations met. All of these civilizations that ruled this part influenced the area with their culture and customs. These civilizations have left their traces on this territory in a form of different cultural and historic monuments. Many of these were destroyed by wars and earthquakes, but many have been restored and witness the rich history of Macedonia. The cultural heritage of Macedonia includes archaeological sites, Byzantine churches, monasteries and frescoes, old fortresses, old market places, mosques, etc. Each town, settlements in Macedonia has something specific to offer.

There are quite numerous archaeological sites, all over the country. Remarkable archaeological sites from the classical antiquity period are the towns of Stobi (near Negotino), Heraclea Lyncestis (near Bitola), Scupi (near Skopje), and Bargala (near Shtip), Stibera (near Prilep).

There are other significant cultural heritage sites but not all are protected - some are already applying for becoming UNESCO cultural heritage sites, some are waiting better times when appropriate resources will be allocated in order to shine with all its beauty and truth. Ohrid and Lake Ohrid are recognized as UNESCO natural and cultural heritage sites.

By now, in Macedonia, only four areas are registered as national parks: Galichica, Mavrovo, Pelister and Jasen, which cover an area of approximately 110,000 hectares. In the following decade a three more are expected to become registered as national parks.

Cultural Heritage Protection Office of the Republic of North Macedonia, within the Ministry of Culture holds a register of all protected material and non-material cultural heritage of the Republic of North

[30] Source: Health Map of the Republic of North Macedonia, 2015

Macedonia.

According to the data of the State Statistical Office, in Republic of North Macedonia there are 28 museums, of which 19 are public (national) museums, 8 are public (local) museums and one is a private museum. In relation to the content it offers, 18 are general and 10 are specialized museums.

In 2015, these museums organized 102 own exhibitions, of which 85 exhibitions were organized by general museums and 17 by specialized museums. Some 36,980 of 224,779 inventoried exhibits in the museums were displayed in 2015.

In 2016 there were 19 professional theatres which played 1,372 performances. Also, small number of 14 cinemas played 16,295 movie projections.

2.3.6 Gender based discrimination/sexual violence in the workplace

Research[31] conducted on the topic of sexual harassment ("Study on sexual harassment in the Republic of Macedonia") was done by an NGO **"National network to end violence against women and domestic violence".** National Network developed the Study on different forms of sexual violence in the Republic of North Macedonia with the aim of obtaining information about how much sexual violence and sexual harassment are recognized in our country, as well as on the reaction and solutions in cases of sexual violence and harassment. For the Study information were obtained from the institutions, online questionnaire was developed and widely distributed, individual interviews were conducted, as well as focus groups with relevant representatives from the institutions and the civil society organizations.

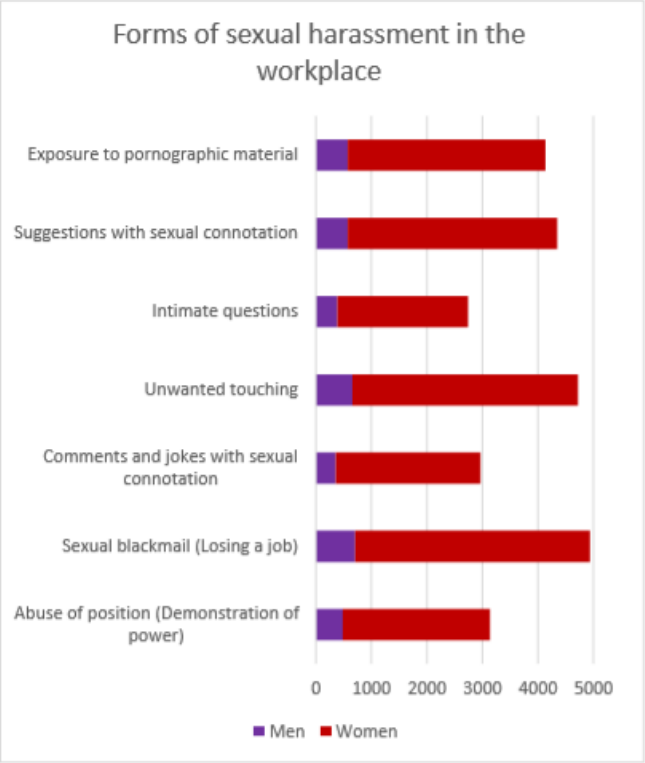
Sexual violence and sexual harassment are forms of gender based violence which are least recognized in our country, and with which women and girls are faced on a daily basis. Sexual harassment in the workplace, as a regulated form of sexual violence in the Macedonian legislation, is recognized as such by 97% of the respondents. What the respondents imply with the term "Sexual harassment in the workplace" is:

- Abuse of position (Demonstration of power)
- Sexual blackmail (Losing a job)
- Comments and jokes with sexual connotation
- Unwanted touching
- Questions related to one's private life
- Suggestions with sexual connotation
- Exposure to pornographic material

The following chart represents the distribution of forms of sexual harassment in the workplace by gender of the people that filled in the questionnaires for the research.

[31] http://www.glasprotivnasilstvo.org.mk/wp-content/uploads/2013/11/Scoping-study-on-sexual-violence.pdf

Chart 7: Responses by persons who filled the online questionnaire on forms of sexual harassment in the workplace



Of the total of 4391 female respondents, 1696 said that during their lives they were exposed to some form of sexual violence, which makes them 39% of the total number of female respondents who filled out the questionnaire.

Table 16: Women victims of sexual violence

Form of sexual violence	Number
Sexual harassment	1253
Sexual harassment in the workplace	311
Sexual assault (rape)	132

132 women or 3% of the total number (4391) of female respondents stated that they were raped. Additionally, 15 women stated that they survived a rape attempt.

Of the total of 745 male respondents, 132 men, that is 18%, answered that they were victims of sexual violence. 12 men or 1.6% of the total number stated that they have been raped.

Table 17: Men victims of sexual violence

Form of sexual violence	Number
Sexual harassment	91
Sexual harassment in the workplace	29
Sexual assault (rape)	12

PART 3: Description of the Administrative, Policy and Regulatory Framework

3.1. Legal Framework

3.1.1. National Environmental and Social Legislation – Primary Laws and Secondary Legislation Relevant to the Assignment

The Constitution of the country contains provisions regarding environment protection (articles 8 and 43). Most of the environmental protection issues are decentralized. Amendment XVII of the Constitution of the Republic of North Macedonia specifies "in units of local self-government, citizens participate directly and through representatives in decision-making on issues of local relevance particularly in the fields of public services, urban and rural planning, and environmental protection."

The transposition of the EU legislation in to the national legislation is done approximately 80%.

1. ***The Law on Environment (LoE) (Official Gazette No.53/05,81/05,24/07,159/08, 83/2009, 124/2010, 51/2011, 123/12, 93/13, 187/13 42/14, 44/15 129/15, 192/15 and 39/16);***

The Law on Environment (LoE) was adopted in July 2005 and subject to several amendments in the following years. The Law on Environment is the basis for environmental policy and management, thus providing guiding principles and policy instruments also. This Law contains the fundamental environmental protection principles, which are basis for determination of the procedures for environment management and which are common for all laws regulating particular environmental media.

According to Article 77 of the Law on Environment regulates the procedure for the environmental impacts assessment of projects that may cause impacts on environmental media. The Proponent/Grant Applicant is obliged to submit a Notification of the intention to perform a project to the body of the state administration responsible for the affairs of the environment (in accordance with Article 80).

Rulebook on the content of the requirements that need to be fulfilled by the ESIA Study (Official Gazette No.33/06) - Rulebook defines the contents of the Environmental Impact Assessment Study.

Decree on determining projects for which the ESIA procedure should be carry out (Official Gazette No.74/05, 109/09, 164/12) - This Decree defines projects for which an EIA procedure is mandatory, generally designated projects that could have a significant impact on the environment for which the need to conduct an EIA procedure is identified, criteria on the basis of which the need for implementation of the procedure for the establishing of new generally defined projects and criteria on the basis of which is determined the need for conducting a procedure under a change in the existing facilities is determined.

Rulebook on the information contained in Notification of intent to implement a project and the procedure for determining the need for ESIA of a project (Official Gazette No.33/06) - Rulebook defines the content of the notification of the intention to perform the project. Proponent/Grant Applicant shall inform the competent authority of the intention to implement the project in order to determine the need for the implementation of an EIA procedure.

Rulebook on the list of projects for which the ESIA Report – Elaborate should be prepared by the Proponent/Grant Applicant and the ESIA Report need to be adopted by the Ministry of Environment and Physical Planning (Official Gazette of RM" No. 80/09, 36/12) –This Rulebook covers the categories of activities that may include projects for which the Proponent/Grant Applicant prepares an ESIA Report - Elaborate who is approved by the Ministry of environment and physical planning

Rulebook on the list of projects for which the ESIA Report – Elaborate should be prepared by the Proponent/Grant Applicant and the ESIA Report need to be adopted by the Mayor of the municipality or Mayor of City of Skopje (Official Gazette of RM" No. 80/09, 32/12) - This Rulebook covers the categories of activities that may include projects for which the Proponent/Grant Applicant prepares an ESIA Report - Elaborate which is approved by the Mayor of the municipality or Mayor of City of Skopje.

Rulebook on the form and contents of the ESIA Report – Elaborate, the procedure for their approval, and manner of keeping the register of approved reports (Official Gazette of RM" No. 50/09, 44/13) - This Rulebook prescribes the form and content of the ESIA Report Elaborate, which is the procedure for its approval, as well as the manner of keeping their register.

2. Law on Ambient Air Quality (Official Gazette No. 67/04 with amendments Nos. 92/07, 35/10, 47/11, 59/12 and 163/13, 10/15, 146/15)

Adopted Law in 2004 sets the system for management of the ambient air quality. It includes activities directed towards avoidance, prevention or mitigation of hazardous effects of air pollution through: assessment of the ambient air quality, determination of emission limit values and quality values, planning of the ambient air protection, establishment of ambient air monitoring and information systems as well as protection of the ambient air quality in the course of emission control from stationary or diffuse sources of pollution.

3. Law on Waters (Official Gazette No. 87/08, 6 / 09, 161/09, 83/10, 51/11, 44/12, 23/13, 163/13, 180/14 and 146/15);

The Law incorporates all the aspects of water management: water resource use and allocation; protection against and control of pollution; protection against harmful effects of water and sustainable water management planning.

4. Law on Waste (Official Gazette No. 68/04, 71/04, 107/07, 102/08, 134/08, 124/10, 51/11, 123/12, 147/13, 163/13, 51/15, 146/15 and 192/15);

The Law incorporates the basic principles of waste management (principle of environmental protection in waste management - waste minimization, principle of precaution, closeness, service universality, polluter pays principle, system of deposit, etc.). Waste management, as a public service, is based on the principle of service universality (non-discrimination, sustainability, quality and efficiency, transparency, affordable price and full coverage of the territory).

- *List of Waste Types (Official Gazette No. 100/05);*

The List prescribes types of waste that are classified according to the source of creation and the characteristics

- *Rulebook on the manner of handling asbestos waste and waste from products containing asbestos (Official Gazette No.70/04)*

This Rulebook prescribes the manner of handling asbestos waste and waste from products containing asbestos

- *Law on Packaging and Packaging Waste (Official Gazette no. 161/09 and amendments No.17/11, 47/11, 136/11, 6/12, 39/12, 163/13 and 146/15);*

This Law regulates the requirements for environmental protection that must be fulfilled by the packaging during its production, placing on the market, putting into service and handling packaging waste including the obligations of the economic operators.

- *Law on Electric and Electronic Equipment and waste Electric and Electronic equipment (WEEE) (Official Gazette No. 06/12, 163/13, 146/15, 39/16);*

This Law regulates the requirements for environmental protection that must be fulfilled by legal entities and individuals who produce and placing on the market electrical and electronic equipment in Republic of North Macedonia and who handle waste electrical and electronic equipment.

- *Law on Batteries and Accumulators and waste Batteries and Accumulators (Official Gazette no. 140/10, 47/11, 148/11, 163/13, 146/15, 39/16);*

This Law regulates the requirements for environmental protection that must be fulfilled by batteries and accumulators during their production and placing on the market in Macedonia and handling of waste batteries and accumulators.

5. ***Law of Noise Protection (Official Gazette No. 79/07, 124/10, 47/11,163/13, 146/15);***

The Law adopted in 2007 assigns to MoEPP the general competence to reduce the level of environmental noise, but also determines that some activities will be implemented jointly, in cooperation and consultation with or through some planning document to be adopted in agreement with other authorities, especially the other ministries, City of Skopje and LSG units.

6. ***Law on Nature Protection (Official Gazette of the Republic of Macedonia No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 41/14 and 146/15);***

The protection of nature is carried out through biological and landscape diversity protection and natural heritage protection, in and outside protected areas. With regard to species, the Law regulates the issues of introduction of allochthonous species in nature and reintroduction of extinct autochthonous species; trade in endangered and protected wild species of plants, fungi and animals; protection of species enjoying protection under international agreements; keeping and breeding of wild animal species in captivity, as well as designation of threatened wild species included in the Red Lists and Red Data Book.

7. ***Law on Chemicals (Official Gazette of the Republic of Macedonia No. 145/10, 53/11, 164/13, 116/15 and 149/15)***

The Law regulates the management of chemicals, their classification, proper storage, labelling, handling, and proper usage of chemicals, safety transportation and final disposal of chemical waste.

8. ***Energy Law and Draft Energy Efficiency Law***

The key legislative act for overall energy sector in North Macedonia is Energy law. The new **Energy Law**[32] was adopted in May 2018. The following provisions of the Energy Law are related to energy efficiency:

- Energy efficiency is recognised as one of the energy policy objectives of the Republic of North Macedonia;

[32] "Official Gazette of Republic of Macedonia", No. 96/18

- The energy policy of the Republic of North Macedonia shall be determined in the **Strategy on Energy Development**, which should, *inter alia*, determine measures to support the utilisation of renewable energy sources and incentive measures to increase energy efficiency;
- Measures for energy saving and energy efficiency improvement shall be an integral part of the Programme for protection of vulnerable energy consumers, which is to be adopted on yearly basis;
- Within its jurisdictions, the Energy Regulatory Commission should aim to increase energy efficiency of the whole energy system;
- Energy efficiency, emission reduction and use of renewable energy sources are defined, *inter alia*, as criteria for obtaining the authorisation for construction of new energy facilities (electricity generation facilities, electricity and heat energy cogeneration facilities or heat energy generation facilities);
- In respect to the security of energy supply, prior to issuing tenders for new generation facilities, the Ministry is obliged to determine whether the security of energy supply can be ensured with energy efficiency measures and consumption management;
- Transmission system operator is obliged to submit each year an annual, five-year and ten-year forecasts for the electricity consumption, which must show the expected increase in the efficiency of the operation of the electricity transmission system by reducing the losses of electricity;
- Distribution system operator is obliged to submit each year an annual and five-year plan for the electricity distribution system development, which must show the expected increase in the efficiency of the operation of the electricity distribution system by reducing the losses of electricity and from the introduction of advanced metering systems and smart networks.

Based on the Energy Law, the Minister of Economy adopted a Rulebook on renewable energy sources[33] on June 3, 2019 which regulates the following matters:

- types of power plants for the production of electricity from renewable energy sources
- the conditions and the manner in which the surplus energy produced from renewable energy sources for own consumption is transferred to the electricity grid
- the method of issuing approval for measuring wind potential for energy production
- the method for measuring wind potential for energy production
- the manner in which the guarantees of origin are issued, transmitted and withdrawn and their contents
- the manner, procedure and conditions for the recognition of guarantees of origin issued by other States
- the content, form and manner of keeping a register of power plants that generate electricity from renewable energy sources
- the content, form and manner of keeping the register of guarantees of origin

According to the version from January 2019, the new Energy Efficiency (EE) Law will transpose the provisions of the Directive 2012/27 EU on energy efficiency, the Directive 2010/31/EU on energy performance of buildings and Regulation 2017/1369 on the establishment of an energy consumption labelling framework, as transposed and amended by the Ministerial Council of the Energy Community. The EE Law should regulate the following matters:

[33] Official Gazette of the Republic of North Macedonia No. 112/19

- efficient use of energy in the Republic of North Macedonia;
- energy efficiency policy;
- the competences of the Ministry responsible for energy affairs (hereinafter: the Ministry) and the Energy Agency of the Republic of Macedonia (hereinafter: the Agency) for the implementation of the EE Law;
- public sector obligations in terms of energy efficiency and energy consumption;
- the obligation scheme and alternative measures for energy efficiency;
- energy audits in the industry and the commercial sector;
- energy efficiency in transmission, distribution and supply;
- the performance of energy services and the ways of financing measures to support energy efficiency;
- the energy efficiency of buildings in which the industrial process does not take place;
- the labelling of energy consumption and the eco-design of energy-using products;
- other issues in the field of energy efficiency.

The draft EE Law stipulates that the energy efficiency policy shall be determined in the Energy Development Strategy. The national energy efficiency targets for 2020 and 2030 shall be adopted by Governmental decrees, while measures and activities to achieve these targets should be defined in **three-year National Energy Efficiency Action Plans (NEEAP)**. The NEEAP is prepared by the Ministry, adopted by the Government and monitored by the Energy Agency. Energy Agency is obliged to submit to the Ministry an **annual report on the realization of NEAAP**. The Ministry is obliged to submit the annual report to the Secretariat of the Energy Community.

Special section of the draft EE Law is devoted to **energy efficiency in the public sector**, with the following obligations prescribed:

- Buildings owned and used by public sector entities at the state level must meet **the minimum requirements for energy performance of buildings** prescribed in accordance with this Law, to acquire a **certificate** of energy characteristics that meets the minimum requirements for energy efficiency in accordance with the Rulebook on energy performance of buildings and to perform regular energy audits of those buildings, at least every 3 or 5 years;
- The Office for General and Common Affairs of the Government should prepare the list of all state buildings above 250 m^2 that do not meet the requirements and **prepare a three-year plan to renovate 1% surface of these buildings**, the funds for which should be provided from the Budget of the Republic of North Macedonia and from other sources;
- The public sector entities shall be obliged to monitor and manage the energy consumption in the buildings or construction units in which they perform the activity, for purpose of which Energy Agency will establish and maintain a single **information system for monitoring and managing the energy consumption of public sector entities** (hereinafter: "Information System"), the content and functionalities of which are to be prescribed in the rulebook on the Information System adopted by the Minister – each public entity should nominate person in charge of entering data in the Information System;

- In order to monitor the implementation of the energy efficiency measures for public sector entities, the Energy Agency shall establish and maintain an **electronic monitoring and verification tool** available on the Internet (hereinafter: "MVP"), the features and operation mode of which shall be prescribed by the Rulebook on the MVP adopted by the Minister;
- Public sector entities shall prepare annual reports on the energy management and energy performance of the buildings and construction units that include a description of the activities undertaken during the reporting period or which are planned to be undertaken in the next reporting period in order to improve the energy efficiency, as well as an estimate of the energy savings that may arise from such activities using data form Information System and MVP;
- Public sector obligation to include **energy efficiency as a criteria in public procurement tenders** for energy related products, buildings and services, in line with the rulebook regulating the methodology for determining the level of energy efficiency and other requirements during the implementation of the public procurement procedures for goods and services in accordance adopted by the Minister and the guidelines for minimum technical criteria and other parameters to be respected by Contracting authorities, when carrying out public procurement issued by the Energy Agency.

A more detailed Situation Analysis of Legal, Policy and Institutional Framework for Energy Efficiency in North Macedonia is presented in Appendix 1.

9. Health and Safety

Health and safety laws that are of particular interest relating to this project are:

- **Law on Social Protection** (OG of RM no. 79/09, 148/13,164/13, 187/13, 38/14, 44/14, 116/14, 180/14, 33/15, 72/15, 104/15, 150/15, 173/15, 192/18, 30/16, 163/17, 51/18). Social welfare and protection in Macedonia comprises of services and benefits from the tax-financed social welfare system (social prevention – which according to the Law on Social Protection includes - educational and advisory work, development of self-assistance forms, volunteering work etc., institutional care, non-institutional care and monetary assistance) and contributory- based social insurance system (pensions and disability, health and unemployment insurance).
- **Law for Health Protection** (OG of RM no. 43/12, 145/12, 87/13, 164/13, 39/14, 43/14, 132/14, 188/14, 10/15, 61/15, 154/15, 132/15, 154/15, 192/15, 37/16). Law on Health Protection regulates the matters related to the system and organization of health protection and the performance of healthcare activity, the guaranteed rights and the established needs and interests of the country in the provision of health protection, the healthcare institutions, the employment, rights and duties, responsibility, assessment, termination of employment, protection and decision-making upon the rights and obligations of healthcare workers and healthcare co-workers, the quality and safety of healthcare activity, the chambers and professional associations, the marketing and advertising of healthcare activity, the performance of healthcare activity in case of emergencies, and the supervision of the performance of healthcare activity.
- **Law on Public Health** (OG of RM no. 22/10, 136/11, 144/14, 149/15, 37/16). The Law on Public Health regulates the implementation of the basic functions and tasks of public health, the public health system, public health emergencies and public health financing.

The purpose of this law is: to preserve and promote the health of the population; to enable implementation of the basic functions and tasks of public health through organized measures and activities undertaken by the state bodies, institutions, units of the local self-government and other legal and natural persons in cooperation with the healthcare institutions; to promote and strengthen cross- sectoral cooperation in the implementation of the basic public health functions; to promote and strengthen cooperation between the competent ministries and the units of local self-government and the public and private sector and citizens in the preservation and promotion of the health of the population; to provide an appropriate response in case of public health need and urgency and occurrence of a public health emergency; to ensure the implementation of international health rules and to regulate specific public health issues that are not regulated by another law.

Other laws that cover Health and Safety domain are:

- Law on Sanitary and Health Inspection (OG of RM no. 71/06, 139/08, 88/10, 18/11, 53/11, 164/13, 43/14, 144/14, 51/15, 150/15, 37/16)
- Law on Traffic Safety (OG of RM no. 169/15, 55/16)
- Law on Safety and Rescue (OG of RM no. 93/12, 41/14, 71/16, 106/16) Law on Public Works (95/212, 163/13, 42/14, 44/15, 147/15, 31/16) and other bylaws

10. Labor and Workforce

The main legislation that covers labor and working conditions issues are following:

- Labor Law of Republic of Macedonia (OG of RM no. 62/05; 106/08; 161/08; 114/09; 130/09; 149/09; 50/10; 52/10; 124/10; 47/2011; 11/12; 39/12; 13/13; 25/2013; 170/2013; 187/13; 113/14; 20/15; 33/15; 72/15; 129/15, 27/16), manages relationship between parties involved in the process of employment. It protects and applies to any natural person that has concluded an employment contract with an employer.
- Law on Pensions and Disability Insurance (OG of RM no. 53/13, 170/13, 43/14, 44/14, 97/14, 113/14, 160/14, 188/14, 20/15, 61/15, 97/15, 129/15, 147/15, 154/15, 173/15, 217/15, 27/16, 120/16, 132/16) defines the obligatory pension insurance of workers under working contract and the natural persons performing activity, the bases of the capital funded pension insurance, as well as the special conditions how certain categories of insured persons receive the right to pension and enjoy disability insurance. The rights deriving from the pension and disability insurance are the following: right to age-related pension, right to disability pension, right to re-allocation to other adequate, working post, right to adequate employment, right to re-qualification or higher qualification and right to adequate financial compensations, right to family pension, right to monthly compensation for physical damage, and right to minimal pension

Other labor and workforce related laws are:

- Law on employment and insurance against unemployment Law on labor inspection;
- Law on records in the field of labor;
- Law on employment of disabled persons;

- Law on holidays of the Republic of Macedonia;
- Law on temporary employment agencies;
- Law on volunteering;
- Law on peaceful settlement of labor disputes Law on employment and work of foreigners;
- Law on minimum wage;
- Law on protection from harassment in the workplace and other bylaws.

11. Land acquisition / Expropriation

Macedonian legislation deals with involuntary resettlement and livelihood restoration under its legal framework for expropriation, with the basic notion that owners of properties are to be compensated for their losses, most often in monetary terms.

In the Republic of Macedonia, the legislative acts given below regulate the issues of obtaining State ownership rights to privately owned land parcels based on the necessary public needs caused due to strictly defined development projects of public interests:

- **Expropriation Law** (OG of RM No. 95/12, 131/12**,** 24/13, 27/14, 104/15, 192/15, 23/16, 178/16) regulates the procedure for the expropriation of property for projects that are of public interest and the connected rights for real estates (immovable properties).
- **Law on ownership and other real rights** (OG of RM No. 18/01, 92/08, 139/09, 35/10) regulates the rights and obligations of the owners of the property. The right to ownership can be acquired by all domestic and foreign natural persons and legal entities, including the state and the units of the local self-government, under conditions and in a manner stipulated by this and other laws.
- **Law on Housing** (OG of RM no. 99/09, 57/10, 36/11, 54/11, 13/12, 55/13, 163/13, 42/14, 199/14, 146/15, 31/16). The key point from social perspective relevant to this project in the Law on Housing is that it envisages the possibility for renting state-owned apartments to socially endangered and homeless persons in accordance with the Law on Social Protection. This Law deals, among other things, with the issue of social housing and the housing of the vulnerable groups (children without parents or without parental care, users of social and permanent financial assistance, persons affected by natural disasters, disabled persons and persons who need assistance and care by other persons, the socially endangered persons belonging to the Roma community, lone parents with minor children).
- Other laws defining the relationship among affected parties in the process of land acquisition / expropriation are:
    - Law on Construction (Official Gazette of Republic of Macedonia No. 130/09, 124/10, 18/11, 36/11, 54/11, 13/12, 144/12, 25/13, 79/13, 137/13, 163/13, 27/14, 28/14, 42/14, 115/14, 149/14, 187/14, 44/15, 129/15, 217/15, 226/15, 30/16, 31/16, 39/16, 71/16, 132/16).
    - Law on Assessment (Official Gazette of the Republic of Macedonia No. 115/10, 158/11, 185/11, 64/12, 188/14, 104/15, 153/15, 192/15, 30/16)

- The Law on Access to Public Information (OG of RM no. 13/06, 86/08, 06/10, 42/14, 148/15, 55/16)
- Methodology for assessment of the market value of the real estate (Official Gazette of the Republic of Macedonia No. 54/12)
- Rulebook on the method of cadastral classification and determination and registration of the change of cadastral culture and land class (Official Gazette of Republic of Macedonia No. 144/13, 95/15)
- Law on acting upon illegally constructed buildings (Official Gazette of the Republic of Macedonia No. 23/11, 54/11, 155/12, 53/13, 72/13, 44/14, 115/14, 199/14, 124/15, 129/15, 217/15, 31/16)
- Law on acting upon complaints and proposals (Official Gazette of Republic of Macedonia No.82/2008, 13/13, 156/15, 193/15);
- Law on Real Estate Cadaster (Official Gazette of the Republic of Macedonia No. 55/13, 41/14, 115/14, 116/15, 153/15, 192/15, 61/16);

12. Gender equality and non-discrimination

The country has adopted two Laws that in general cover all the issues of gender equality and fight against discrimination on any ground. They are as follows:

- Law on Prevention and Protection against Discrimination (Official Gazette of the Republic of North Macedonia No. 101/19)
- Law on equal opportunities for men and women (Official Gazette of the Republic of Macedonia No. 06/12, 166/14)
- Law on Protection against Harassment at Work (Official Gazette of the Republic of Macedonia No. 79/2013 and 147/2015)

3.1.2 Regulation on Local (Municipal) Level

On local (municipal) level there is no any specific relevant regulation issued for air quality, protection of waters, noise disturbance or special regulation on waste management.

All relevant inspectors (Environmental, Communal, Traffic, Civil /Construction) follow the national environmental legislation.

Other regulation related to local self-government sector is the following:

- Law on local self-government (Official Gazette of Republic of Macedonia No. 5/2002);
- Law on State Inspectorate of Local Self-Government (Official Gazette of Republic of Macedonia No. 158/10)
- Law on City of Skopje (Official Gazette of Republic of Macedonia No.55/04)
- Law on inter-municipal cooperation (Official Gazette of Republic of Macedonia No.79/09)
- Law on the territorial organization of the local self-government in the Republic of Macedonia (Official Gazette of the Republic of Macedonia No.55/16.08.2004);

- Law on equal regional development (Official Gazette of Republic of Macedonia No. 63/ 22.05.2007)

Specific gap analysis between the national legislation of North Macedonia and WB ESF provisions with recommendations for addressing the gaps is provided in Appendix 2.

List of ratified Conventions by Republic of North Macedonia in the Environmental and Social Sectors is presented in Appendix 3.

3.2 National Environmental and Social Policy

The governmental institutions in the Republic of North Macedonia have adopted a number of environmental and social policy documents for the protection, maintenance, and enhancement of the environment and social protection as well. The main plans and strategic documents on national level are following:

ENVIRONMENTAL POLICY
National Strategy for Environmental Approximation 2008-2014, adopted 2008 by the Government of RM (updated in 2014)
National Strategy for environmental investments, 2009-2013, adopted in 2009 by the Government of RM
Second National Environmental Action Plan 2006-2012, adopted in 2006;
Environmental Monitoring Strategy, adopted in 2005 by the MoEPP
Program for investments in environment (on annual base), MoEPP
SUSTAINABLE DEVELOPMENT
National Strategy for regional development of the Republic of Macedonia 2009 – 2019
National Strategy for Sustainable Development in Republic of Macedonia 2010- 2030, adopted in 2010 by the Government of RM
Plan for Institutional Development of the National and Local Environmental Management Capacity 2009 – 2014 approved by GRM in February 2009.
COMMUNICATION AND PUBLIC AWARENESS
Environmental Communication Strategy, adopted in 2004 by the MoEPP
Public Awareness Strategy for Environment, adopted in 2004 by the MoEPP;
Strategy for Environmental Data Management, adopted in 2004 by the MoEPP

POPs
Update of the National Implementation Plan for reduction and elimination of Persistent Organic Pollutants in the Republic of Macedonia – NIP Update, adopted by Government of RM in 2014
National Implementation Plan on reduction and elimination of Persistent Organic Pollutants in the Republic of Macedonia, adopted by Government of RM in 2004
WATER
National Water Strategy (2012 – 2042), adopted by Government of RM
AIR
National Plan for Ambient Air Protection in Republic of Macedonia for the period from 2013 to 2018 (2012)
Program for the gradual reduction of emissions of certain pollutants at the level of the Republic of Macedonia with projections for the reduction from 2010 to 2020
NATURE
National Strategy for Nature Protection (2017 – 2027), adopted in 2018
National Biodiversity Strategy (2019 – 2023)
Fifth National Report to the Convention on Biological Diversity of the Republic of Macedonia, Ministry of Environment and Physical Planning, Skopje, 2014;
CLIMATE CHANGE
National Environment and Climate Change Strategy (2014-2020);
Third National Plan on Climate Change (2013)
WASTE
National Waste Management Strategy (2008-2020), adopted 2008 by the Government of RM;
National Waste Management Plan (2009 – 2015) adopted 2009 by the MoEPP
Waste Management Plan for the electric and electronic equipment waste in the Republic of Macedonia (2013 – 2020)
Program for packaging waste management, adopted in 2011 by the MoEPP;
Plan for closing of the non-standard landfills in the Republic of Macedonia

ENERGY
The Strategy for Energy Development in the Republic of Macedonia for the period 2008-2020, with a vision until 2030
Strategy for promotion of energy efficiency in the Republic of Macedonia by 2020
Strategy for Improvement of the Energy Efficiency in the Republic of Macedonia until 2020
Strategy for utilization of renewable energy sources in the Republic of Macedonia by 2020
Third action plan for energy efficiency of the Republic of Macedonia for the period 2018-2020 (2016)
National Program on Energy Efficiency in public buildings
SOCIAL POLICY
ESRP 2020 – Employment and social reform Program
Strategy for occupational safety and health 2020
National strategy for reduction of poverty and social exclusion in the Republic of Macedonia (revised 2010-2020)
National action plan for the implementation of the Law on the prevention and protection against discrimination 2015 - 2020
National strategy for equality and non-discrimination 2016-2020
Strategy for gender equality 2013-2020
Istanbul Convention on action against violence against women and domestic violence

For the purposes of assessing environmental and social impacts, sub-project proponents will consider the amended version of each national environmental and social policy document and updated national legislation.

	I	II	III	IV
Total	**22 040**	**22 289**	**22 273**	**22 765**
Agriculture, forestry and fishing	16 578	16 791	17 249	16 857
Mining and quarrying	25 714	25 779	26 020	27 469
Manufacturing	16 666	16 784	17 183	17 750
Electricity, gas, steam and air conditioning supply	37 211	37 303	37 281	37 109
Water supply; sewerage, waste management and remediation activities	19 678	19 824	19 905	20 004
Construction	20 606	21 404	21 398	21 398
Wholesale and retail trade; repair of motor vehicles and motorcycles	20 283	20 128	20 271	20 567
Transportation and storage	22 548	22 858	22 886	23 329
Accommodation and food service activities	15 570	15 259	15 267	15 604
Information and communication	35 410	36 204	36 079	38 313
Financial and insurance activities	39 406	39 882	39 223	40 290
Real estate activities	24 132	23 949	23 864	23 932
Professional, scientific and technical activities	28 915	29 150	27 860	29 655
Administrative and support service activities	16 763	16 448	16 234	16 706
Public administration and defense; compulsory social security	26 331	26 885	26 781	26 937
Education	22 151	22 169	22 170	22 268
Human health and social work activities	24 212	24 604	24 766	24 698
Arts, entertainment and recreation	19 529	21 590	19 533	23 829
Other service activities	25 671	26 489	25 944	26 410

3.3 Relevant Environmental and Social Institutional Set Up

The Ministry of Environment and Physical Planning (MoEPP) is the competent state body with regard to the development and implementation of policies in the area of environmental protection and improvement in the different media and areas: air, water, soil, solid waste, biological diversity and other natural resources, and ozone layer protection.

Governmental institutions are mainly responsible for setting the regulations, preparation of policy making and planning documents, financial plans and proposing economic instruments, preparation of guidance and methodologies, providing trainings and dissemination of environmental information. Their special technical bodies are responsible for monitoring, registration, licensing and permitting procedures, public information and consultation, data collection and reporting.

The MoEPP is not the only Ministry dealing with environmental matters. Bodies within the Ministry of Agriculture, Forestry and Water Economy (MAFWE), Ministry of Health (MoH), Ministry of Transport and Communication and the Ministry of Science all have competences within the environmental field, as well.

According to the Law on Local Self-Government, the local self-government units (LSGU) are

competent for regulation and performance of affairs of public interest of local relevance, specified by law. This Law also specifies the list of exclusive competences of the local self-government units, including environment and nature protection, protection from impacts for noises and unionized radiation, sewerage and treatment of public waste water, and collection, transport and treatment of municipal solid waste and hazardous waste.

Environmental monitoring activities are not centralized, as competences are fragmented according to the type of monitoring. In general, the MoEPP's Environmental Protection Administration (EPA) and bodies covered by other Ministries such as the MoH and the MAFWE are responsible for monitoring activities of water and air quality and noise nuisance. Other monitoring activities are carried on by the Hydro-Meteorological Directorate (HydroMet) of the MAFWE, the Public Institute for Health Protection of the MoH, the Cities Health Institutes, the HydroBiological Institute and other public bodies. The State Environment Inspectorate (SEI) under the MoEPP is the central competent authority for inspection and supervision over the enforcement of laws and regulations in the area of environment. However, inspectorate functions also exist in other Ministries and in local government.

At present, the MoEPP is organized in nine departments or sectors, further organized in units, as well as three constituent bodies within the MoEPP, i.e. the Administration for Environment (AE), State Environmental Inspectorate and Office for Spatial Information System. These bodies operate as separate entities within and under the supervision of the Ministry of Environment and Physical Planning in accordance with legal regulations and other legal acts governing issues in the area of environment. In performing its duties, the Minister is further assisted by a Deputy Minister, by a State Secretary and by thematic State Advisors. Since May 2014, the State Environmental Inspectorate has gained legal status, as a separate body within the fully independent National Inspection Council.

The Ministry of Transport and Communication (MTC) is responsible for supervision of communal infrastructure of municipalities, being mostly water supply and sewerage networks. Consequently, MTC is to a large extent involved in the construction of water supply and sewerage networks, thus supporting particular municipalities in rural or less developed areas. Support for water supply and sewerage network projects is provided by granting state subsidies to municipalities applying for such assistance. The Ministry has also been managing several water infrastructure programmes supported by international donors.

The Ministry of Health is responsible for controlling the quality of drinking water through The Republic Institute for Public Health, which is a body within this Ministry.

With regards to the energy issues, there are two crucial state institutions for the definition, implementation and monitoring of energy efficiency policy in the country:

- **Ministry of Economy** (MoE) – Department for Energy, and
- **Energy Agency** (EA).

The Energy Department, within the MoE, oversees the entire energy sector and is currently in charge of all energy efficiency-related issues, especially from a policy and legislative perspective. According to the draft EE Law, the roles of the Ministry are as follows:

- drafting and proposing a Strategy for reconstruction of buildings, in cooperation with the ministry competent for the construction industry;
- drafting and proposing NEEAP to the Government;

- performing supervision over the work of the Agency and the units of local self-government, in accordance with laws;
- issuing licenses to companies and sole proprietors for carrying out energy audits in industry and commercial sector and energy audits of buildings;
- issuing authorizations for energy auditors in industry and commercial sector and energy auditors of buildings;
- keeping a registry of authorized energy auditors and licensed companies and sole proprietors for performing energy audits and updating such registry every six months;
- preparing an annual report for the implementation of this Law, which it submits to the Secretariat of the Energy Community; and
- performing other responsibilities in accordance with the Law.

According to the draft EE Law, the roles of the Energy Agency are as follows:

- proposing measures for the creation and implementation of energy efficiency policies;
- submitting initiatives, as well as proposing and coordinating the preparation of studies and projects related to improving energy efficiency;
- at the request of the Ministry, participates in the preparation of proposals and drafts of secondary legislation, technical regulations, other legal acts in the field of energy efficiency and the implementation of this Law;
- upon request from the Ministry, conducts analyses and submits proposals to the Ministry for energy efficiency targets until 2020 and 2030;
- upon request of the Ministry, participate in the preparation of NEEAP;
- development of sectoral programs at the state level needed for the implementation of NEEAP;
- monitoring and reporting to the Ministry about the situation with the realization of NEEAP and its related programs;
- monitoring the work of the State Market Inspectorate regarding the market surveillance performed pursuant to this Law;
- issuing authorizations for legal entities for performing trainings for energy auditors;
- development of training programs for energy auditors;
- providing expert support to the units of local self-government or other state bodies in the development of programs and measures for improvement of the energy efficiency;
- management, maintenance and upgrading of the EE information system;
- managing, maintaining and upgrading the MVP tool; and
- performing other activities in accordance with the Law.

While the Ministry of Economy is responsible for legislative and strategic framework, the Agency should be in charge for monitoring and evaluation of policy implementation; however, the institutional framework for energy efficiency in North Macedonia is missing the dedicated financial support. For that purpose, already in the current Energy Law (art. 130) it was envisaged to establish **Energy Efficiency**

Fund. In the draft EE Law, there is also a provision that stipulates the establishment of the Energy Efficiency Fund. The Fund shall be established as an independent legal entity, the aim of which is to provide financial and operational support for the investments in the field of energy efficiency in North Macedonia. The Energy Efficiency Fund shall be financed through donations, budget funds, payments, duties and otherwise prescribed in accordance with this and separate law. The establishment, competencies, functioning and ways of financing of the Energy Efficiency Fund shall be regulated by a separate law.

The role of the professional associations (e.g. Chamber of Commerce of Macedonia, Association of Packagers, Association of Operators with Secondary Raw Materials, Associations of Farmers, Macedonian Association for Energy Efficiency (MACEF), Association of Car Dealers, Association of Communal Enterprises, etc.) is to provide technical inputs to the public information and consultation process, support regulation drafting process with advice for practical implementation of the legislation and during the process of setting the technical standards.

Within the country there are also **competent experts** able to perform energy audits, complex energy analyses and to prepare credible project documentation according to which actual works on energy efficiency will be performed. Although the obligations for performance of energy audits and energy certification of buildings were postponed, the system for education of energy auditors has been established in Northern Macedonia, which is important prerequisite for implementation of energy efficiency activities on the larger scale. In the course of 2018, the energy auditors were trained in accordance with the Program for the Enhancement of Energy Controllers and the Ministry of Economy granted them the certificate to perform energy audits. **The number of issued licenses for performing energy audits is equals 77**. There is an active Association of licenced energy auditors (ZLEK) operating in the country and with launch of new legislative framework as well as financing programmes for energy efficiency, it is expected that the market for energy auditing will experience the growth.

Ministry for labor and social policy is the main executive and coordination body of social inclusion policies and legislation in the country. The governmental mechanism for gender equality is established in the Ministry of Labour and Social Policy. In 1997, the Unit for Promotion of Gender Equality in the Labour Department was established in the Ministry of Labour and Social Policy with a decision of the Government of the RM. In March 2007, the status of the Unit was promoted with the Act of Systematization and Organization of the Ministry of Labour and Social Policy and a Department for Equal Opportunities was established. The department consists of two units – Unit for Gender Equality and Unit for Prevention and Protection against any kind of Discrimination.

The Ministry of Transport and Communication (MTC)is responsible for issuing Construction Permits and Use Permit for infrastructural projects for large construction and infrastructural projects.

In order to better implement the project, some of these institutions will have their representatives as members of the Coordination Committee of the Project (see section 7.2). Depending on the projects proposed by the municipalities, each of the institution will be responsible for issuing the necessary documents for implementation. Additionally, the Ministry of Health will be responsible for identifying the buildings to be renovated with the Project.

3.3.1 Local Self-Government Responsibilities

Following the process of decentralization, municipal administrations play an important role in the implementation of the environmental policy in the water and waste sector. Their basic tasks relate mainly to the:

I. Development of local programmes for protection of the environment;

II. Construction, maintenance and operation of water supply systems, sewerage systems, WWTPs, communal waste collection and disposal;

III. Providing public information regarding the state of the environment.

Currently, the entire water and waste infrastructure is owned and managed by the municipalities.

LSG units are competent (based on Article 24 of the Law on Environment) for assessment of the Environmental Impact Assessment Report (Report) prepared by the Proponent/Grant Applicant for certain smaller activities and projects (compared to those determined by the secondary legislation as ones in competence of the central authorities). LSG have obligations for issuing IPPC B permits for production installations. Local environmental inspectors assigned by the LSG units perform regular inspection over the implementation of the environmental legislation and mitigation measures at IPPC B installations and the companies obliged to prepare the Environmental Impact Assessment Report (Elaborate).

With regard to the energy issues, the draft EE Law stipulates that local self-governments should adopt their three-year energy efficiency programmes containing:

- data on energy consumption in the unit of local self-government, cumulatively and by sector (industry, commercial sector, transport and housing);
- indicative targets for energy efficiency at the level of the units of local self-government, by sectors; 3) measures and activities for improving energy efficiency, by sector;
- deadlines in which the individual measures and activities should be implemented;
- the necessary funds for the implementation of the envisaged measures and activities, and the manner of their provision; and
- responsible body or person for implementation of each of the measures or activities envisaged.

For the implementation of the energy efficiency program, the council of the local self-government unit shall adopt an annual plan upon a proposal by the Mayor. Both programmes and plans of local self-governments shall be submitted and approved by the Energy Agency. The Agency shall submit to the Ministry, by 30 April each year at the latest, a summary report prepared on the basis of submitted annual plans of the units of local self-government and information on the implementation of the programs, and the Ministry shall submit the report to the Secretariat of the Energy Community. The contents and methodology for preparation and mode for submission of local programmers and plans shall be prescribed by the Minister in the respective rulebook.

The most of energy efficiency related activities is supposed to happen at the local level, i.e. at the **municipal level**. However, although municipalities have the legal obligation to plan their energy efficiency activities as well as to monitor and manage energy consumption in the objects within their jurisdiction, this obligation is dominantly not fulfilled due to lack of capacities. Namely, according to information obtained by the Energy Agency, only one third of all municipalities (out of 84 municipalities in total) prepared their energy efficiency programmes and annual plans, however on quite irregular basis. There are huge differences between the development level, size and human capacities within the municipalities, hence there is an imbalance in the level of the implementation of energy efficiency related activities.

The representing body of the municipalities (ZELS) will have its representative as member of the Coordination Committee. Each of the municipalities applying for the sub-loan will be responsible for

providing or issuing relevant permit for implementation of the sub-project proposed, as well as coordinate with the other institutions relevant to different projects.

PART 4: World Bank Environmental and Social Management Framework and Relevant Standards (ESS)

The Environmental and Social Framework (ESF) sets out the World Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social Standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity. The short summary of several relevant Environmental and Social Standards (ESSs) from the latest Banks' Environmental and Social Framework are presented below.

The Environmental and Social Standards34 set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. The Bank believes that the application of these standards, by focusing on the identification and management of environmental and social risks, will support Borrowers in their goal to reduce poverty and increase prosperity in a sustainable manner for the benefit of the environment and their citizens.

The standards will:

(a) support Borrowers/Clients in achieving good international practice relating to environmental and social sustainability;

(b) assist Borrowers/Clients in fulfilling their national and international environmental and social obligations;

(c) enhance nondiscrimination, transparency, participation, accountability and governance;

(d) enhance the sustainable development outcomes of projects through ongoing stakeholder engagement

The ten Environmental and Social Standards establish the standards that the Borrower and the project will meet through the project life cycle, as follows:

4.1 ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

ESS1 sets out the Client's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

The environmental and social assessment will be based on current information, including a description and delineation of the project and any associated aspects, and environmental and social baseline data at an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment will evaluate the project's potential environmental

34 www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards and http://projects-beta.vsemirnyjbank.org/ru/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards

and social risks and impacts, with a particular attention to those that may fall disproportionally on disadvantaged and/or vulnerable social groups; examine project alternatives; identify ways of improving project selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project. The environmental and social assessment will include stakeholder engagement as an integral part of the assessment, in accordance with ESS10.

According to ESS1 the Client will manage environmental and social risks and impacts of the project throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts.

4.2 ESS 2 – Labor and Working Conditions

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions. ESS2 applies to project workers including fulltime, part-time, temporary, seasonal and migrant workers.

The Borrower will develop and implement written labor management procedures applicable to the project. These procedures will set out the way in which project workers will be managed, in accordance with the requirements of national law and this ESS. The procedures will address the way in which this ESS will apply to different categories of project workers including direct workers, and the way in which the Borrower will require third parties to manage their workers in accordance with ESS2.

4.3 ESS 3 – Recourse and Efficiency, Pollution Prevention and Management

ESS3 recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. The current and projected atmospheric concentration of greenhouse gases (GHG) threatens the welfare of current and future generations. At the same time, more efficient and effective resource use, pollution prevention and GHG emission avoidance, and mitigation technologies and practices have become more accessible and achievable. This ESS sets out the requirements to address resource efficiency and pollution1 prevention and management throughout the project life cycle consistent with GIIP.

The ESMF should include sections on resource efficiency and pollution prevention and management. Assessment of risks and impacts and proposed mitigation measures related to relevant requirements of ESS3, including raw materials, water use, air pollution, hazardous materials, and hazardous waste are included within scope of the ESMF, and ESMPs as relevant.

4.4 ESS 4 – Community Health and Safety

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

4.5 ESS 5 – Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term "involuntary resettlement" refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

Experience and research indicate that physical and economic displacement, if unmitigated, may give rise to severe economic, social and environmental risks: production systems may be dismantled; people face impoverishment if their productive resources or other income sources are lost; people may be relocated to environments where their productive skills are less applicable and the competition for resources greater; community institutions and social networks may be weakened; kin groups may be dispersed; and cultural identity, traditional authority, and the potential for mutual help maybe diminished or lost. For these reasons, involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented.

4.6 ESS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development. Biodiversity is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems. Biodiversity often underpins ecosystem services valued by humans. Impacts on biodiversity can therefore often adversely affect the delivery of ecosystem services.

ESS6 recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the nonliving environment. All habitats support complexities of living organisms and vary in terms of species diversity, abundance and importance.

This ESS also addresses sustainable management of primary production and harvesting of living natural resources.

ESS6 recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, whose access to, or use of, biodiversity or living natural resources may be affected by a project. The potential, positive role of project affected parties, including Indigenous Peoples, in biodiversity conservation and sustainable management of living natural resources is also considered.

4.7 ESS 7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

This ESS applies to distinct social and cultural groups. The terminology used for such groups varies from country to country, and often reflects national considerations. ESS7 uses the term "Indigenous

Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities," recognizing that groups may be referred to in different countries by different terms. Such terms include "Sub-Saharan African historically underserved traditional local communities," "indigenous ethnic minorities," "aboriginals," "hill tribes," "vulnerable and marginalized groups," "minority nationalities," "scheduled tribes," "first nations" or "tribal groups."

ESS7 contributes to poverty reduction and sustainable development by ensuring that projects supported by the Bank enhance opportunities for Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities to participate in, and benefit from, the development process in ways that do not threaten their unique cultural identities and well-being.

4.8 ESS 8 – Cultural Heritage

ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. People identify with cultural heritage as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage, in its many manifestations, is important as a source of valuable scientific and historical information, as an economic and social asset for development, and as an integral part of people's cultural identity and practice. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

The requirements of ESS8 apply to cultural heritage regardless of whether or not it has been legally protected or previously identified or disturbed. The requirements of ESS8 apply to intangible cultural heritage only if a physical component of a project will have a material impact on such cultural heritage or if a project intends to use such cultural heritage for commercial purposes.

The Borrower will implement globally recognized practices for field-based study, documentation and protection of cultural heritage in connection with the project, including by contractors and other third parties.

A chance finds procedure is a project-specific procedure which will be followed if previously unknown cultural heritage is encountered during project activities. It will be included in all contracts relating to construction of the project, including excavations, demolition, movement of earth, flooding or other changes in the physical environment. The chance finds procedure will set out how chance finds associated with the project will be managed.

The procedure will include a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence-off the area of finds or sites to avoid further disturbance; to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of this ESS and national law; and to train project personnel and project workers on chance find procedures.

4.9 ESS 9 – Financial Intermediaries

ESS9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. The Bank is committed to supporting sustainable financial sector development and enhancing the role of domestic capital and financial markets.

FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a

number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.

FIs are required to develop and maintain, in the form of an Environmental and Social Management System (ESMS), effective environmental and social systems, procedures and capacity for assessing, managing, and monitoring risks and impacts of subprojects, as well as managing overall portfolio risk in a responsible manner.

4.10 ESS 10 – Stakeholder Engagement and Information Disclosure

This ESS recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

The client will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts.

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management and monitoring of the project's environmental and social risks and impacts.

In consultation with the Bank, the Borrower will develop and implement a Stakeholder Engagement Plan (SEP) proportionate to the nature and scale of the project and its potential risks and impacts.

PART 5. Potential Environmental and Social Risks and Impacts

5.1 Positive Impacts

The global commitment to environmental protection and in particular to reduction of greenhouse gas emissions, Macedonia's dependence on energy imports, as well as the need to secure greater variety and thereby reliability of energy supply undoubtedly impose increased share of renewable energy sources in the final energy consumption. However, in parallel with activities and measures targeting increased share of renewable energy sources, measures and activities to increase energy efficiency of final energy consumption should be pursued. Thus, the target share of renewable energy sources in final consumption will be achieved much easily and faster, but the economy's competitiveness will also be improved due to reduced energy costs.

The Republic of North Macedonia signed and ratified the Agreement of the Energy Charter, the Energy Community Agreement, the United Nations Framework Convention on Climate Change and the Kyoto Protocol. Together with the signing of the Energy Charter Agreement Macedonia also signed a Protocol for Energy Efficiency and Relevant Environmental Protection Aspects.

The regulation of specific issues related to the performance of energy activities specified in the Law on Energy is performed by the Energy Regulatory Commission (ERC) of the Republic of Macedonia. The Energy Regulatory Commission works and decides independently within the framework of the competences determined in the Law on Energy. The Energy Regulatory Commission has the status of a legal entity.

The council of the municipality, i.e. the Council of the city of Skopje, upon a proposal from the mayor, and after acquiring an opinion from the Ministry of Economy, enacts an energy development program for the municipality or the city of Skopje. These programs are enacted for a period of five years and they should be harmonized with the Strategy for Energy Development of the Republic of Macedonia. They determine, the method and conditions regarding the performance of energy activities of public interest of local significance, the need and the sources of funding for new facilities and reconstruction and upgrading of existing facilities, plants and installations for performing energy activities of public interest of local significance, the quantities of natural gas and heat required to satisfy the demand of the citizens and other consumers in the area of the municipalities and the city of Skopje and the measures and activities for increasing the energy efficiency and production of energy from renewable energy sources.

The project will contribute to fulfilment of the priorities which are set by the “Strategy for Improvement of Energy Efficiency in the Republic of Macedonia until 2020”, linked to the national security and development goals, and include the following:

1. Reliable energy supply
2. Sustainable economic development
3. Competitiveness of the economy

These priorities will be achieved by a series of strategic measures, including the following:

- Reduction of dependence on imported fuels through and electricity consumption for non-productive use.
- Modernization of the energy infrastructure, and diversification of energy supply (the extension of a natural gas network is an important basic element in the realization of all expected energy efficiency measures).
- Enforcement of regional cooperation and fulfilment of Energy Community acquis.

• Energy sector management and training, including technology transfer (Best Available Technologies – BAT, clean development mechanism – CDM).

• Building a framework that will allow viability of energy efficiency improvements on a commercial basis.

As a party of the UN Framework Convention on Climate Change, Republic of North Macedonia has prepared an Intended Nationally Determined Contribution (INDC) to the 2015 Paris Agreement. It has committed to reduce the CO2 emissions from fossil fuels combustion for 30%, that is, for 36% at a higher level of ambition, by 2030 compared to the business as usual (BAU) scenario.

The project will achieve energy savings and carbon emission reductions through energy efficiency improvement of public buildings and street lighting, therefore supporting the country to achieve the emission reduction targets set under its INDC. The emission reduction will be re-estimated in the course of the project implementation, after the energy audits of 10 sub-projects (as a minimum) are conducted.

GHG accounting is undertaken for individual subprojects. The estimated potentials of carbon emission reductions for individual subprojects are presented in table 2 below. The estimates are based on the following assumptions: (i) grid emission factor of 0.861 tCO2e/MWh; (ii) Emission factor of light fuel oil at 68.37 kgCO2e/GJ; and (iii) emission factor of district heating of 0.202 tCO2e/MWh. Overall the project is estimated to result in carbon emission reduction of about 234,919 tons over the project assessment period, with a total amount of 470,711 tCO2e baseline carbon emissions in the absence of project.

Greenhouse Gas Impact over Project lifetime

	Period of impact	***Emissions Reductions***
Brvenica public lighting	2020-2039	36,015 tCO_2e
Cair primary school “Lirija"		2,143 tCO_2e
kindergarten “Snezana”		1,219 tCO_2e

5.2 Adverse Environmental Risks and Impacts

The potential environmental and social impacts that could appear during the rehabilitation or retrofitting of existing municipal facilities for improvement of their energy efficiency or improvement of street lighting elements (e.g. replacement of roof sheets, windows and facades in primary schools / kindergartens / hospitals / municipal buildings, replacement of energy efficient street lighting, etc.) are associated with noise, dust, air and water pollution, solid/demolition waste management, health hazards and labor safety issues, etc.

Risks are expected to be typical for construction/rehabilitation works for various energy supply or energy efficiency activities in public buildings and street lighting, temporary by nature and site specific and can be easily mitigated by applying best construction and/or energy supply or energy efficiency practices and relevant mitigation measures.

5.2.1. Noise and Vibration

Increased noise level (noise from the mechanical machinery and equipment, vehicles, removal of the

old buildings equipment, etc.) may occur during the construction works of the sub-projects. According to the national legislation for ambient noise and vibration (Official Gazette No.79/07, 124/10, 47/11 and 163/13) the Contractors should fulfil requirements for noise limit values for the site-specific area for all construction sites. The national noise exposure limit values are in line with the WHO guideline values for community noise in specific environments (presented in Table 11) as well as with IFC noise level guidelines provided in the General EHS Guidelines: Noise Management. So, if, for example, the construction activities are performed during the school/administrative hours, the following maximum noise levels should be taken into consideration (in case of complaints, measurements need to be performed inside the classrooms and offices).

Table 11: National exposure limits for community noise

Specific environment	Critical health effect(s)	LAeq (dB)	Time base (hour)
Outdoor living area II	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55 45	16 16
School classrooms and pre-schools, indoors; **Health care ordinations**	Speech intelligibility, disturbance of information extraction, message communication	40	During class
Working rooms / offices in administrative units	Disturbance of information processing, message communication	50	During working hours - 8
Rooms in pre-school accommodation; Elderly care accommodations	Annoyance, daytime and evening	35	During working hours - 8

Where sub-projects will be focused on improving the energy efficiency of school buildings, it is recommended to perform reconstruction activities during the school summer vacations (if possible) in order to avoid the potential impacts on health and safety of students.

5.2.2. Air Pollution

Air pollution may be caused by emissions from vehicles, mechanization, excavation of soil, dismantling of the old equipment and constructions, transportation of demolition / construction materials, removing of vegetation layer in some cases, and also during the final interior and exterior works. The interior works (painting, surface preparation) can generate dust which contain hazardous substances such as lead and carbon fibers that could be inhaled by workers. Vehicles for replacement of street lights may also cause air pollution emissions.

5.2.3. Construction wastes

Throughout the project implementation, different waste streams will be generated: excavation of small amounts of soil, communal waste, construction and demolition waste, biodegradable waste, packaging waste, possible hazardous waste – asbestos from roofs/walls/pipes, etc. Chemicals and hazardous materials are limited to the activities such as use of paints for refurbishing of walls and facades and use of new insulation materials.

5.2.4. Water and Soil Pollution

It is not estimated that the project activities will cause significant impacts on water quality. With the leakage of fuels and lubricants (fuel and lubricants) from construction machinery and stored waste, petroleum products and chemicals can pollute the soil, penetrate into groundwater or drain into surface water bodies. Maintenance and cleaning of construction machinery and mechanisms near natural streams can lead to water pollution. If temporary camps for builders are formed on a construction site, pollution of the environment can be caused by sanitary facilities in the camps.

5.2.5. Electric shock injury

Electric current injury may result from contact with electric chain with voltage and/or current sources able to induce electric flow through a part of the body that came into a contact with electric current. Usually the sensitive current flow for a human is more than 1 mA. Besides, when working with high voltage installations an electric shock may result without contacting current conducting elements, but due to leak of current or air gap breakage with electric arc generation. Due to high electric resistance of human tissues they are heated rather fast which may cause injuries. Even a relatively low voltage, around 110 – 230 V, upon short-time contact with chest may cause a disruption to cardiac muscle work (60 mA for alternate current, 300 – 500 mA for permanent current). An electric shock may cause a nervous system disorder, for example, random muscle contraction. Repeated electric shocks may cause a neuropathy. Acute electric injury may be reason of growing asystole. In case of head electric injury loss of consciousness is potential. Under an enough high voltage and current strength the so-called arcing may appear, inflicting serious burns (injuries).

5.2.6. Biodiversity Impacts

Considering the type of sub-project activities, no significant, long term negative impact on biodiversity is expected. Activities such as retrofitting of buildings and replacement of street lighting, installation of geo-thermal and other efficient heating/cooling systems will not cause threats to habitat loss, degradation and fragmentation, invasive alien species, overexploitation, hydrological changes and nutrient loading. In cases of proposals for installation of renewable energy production systems, such as windmills or biomass co-generators, appropriate Elaborate for environmental impact shall be prepared in accordance with the Rulebook for EIA (Off. Gazette No. 36/2012), which requests such an Elaborate for geothermal energy heating pumps. In this regard, sub-project specific biodiversity impacts will be considered individually by respective ESMP of the relevant sub-projects, especially for those located in the settlements of rural municipalities.

In cases of sub-project proposals for installation of biomass co-generators, the financial model shall be designed for use of domestic and locally available organic waste from agriculture / biomass as generated by local plant species. Such a project will not cause devastation of natural habitats by harvesting and overexploitation of naturally available biomass although in state ownership. In this regard, the sub-project will not support introduction and growth of alien species for biomass co-generation.

If tree cutting cannot be avoided for any of sub–project sites, good practice should be applied for compensatory planting or replanting.

Potential impacts in the operational phase of the retrofitted facilities

a. During the routine operational phase of retrofitted facilities impacts on the **air quality** are not expected if the heating system is properly installed and energy efficient. Taking in consideration that the adapted facility will be provided with thermal insulation, new windows and door(s), the loss of energy and consequently need for heating will be minimized, which will lead to decreased

fuels consumption and minimization of the impact on air quality.

If the heating system in retrofitted facilities uses oil as fuel, regular maintenance of the installed boiler should be envisaged according to the previously prepared Plan for maintenance of the equipment, in order to minimize emissions of exhaust gases from the combustion of oil fuel. However, in case the sub-project proposes replacement of old fossil fuel heating system, it shall be replaced only with renewable energy sourced system; natural gas is also accepted as eligible fuel in such case.

b. During the operational phase, facilities will generate relatively small amounts of urban **wastewaters,** which will be disposed either into the centralized sewage system or treated separately in-situ (in the absence of a centralized sewage system).

c. At this phase the communal **wastes** are expected to be generated, which will also include recyclable wastes such as paper, glasses, plastic bottles, lighting bulbs, packaging waste from cleaning products, batteries, electric and electronic equipment, etc. All these wastes shall be managed though contracting specialized licensed communal services for collection, transportation and reuse of packaging waste, waste from electric and electronic equipment, etc. As for the communal solid (non – hazardous) waste generation, the beneficiaries shall possess signed contracts with municipal communal enterprises for its collection, transportation and disposal to the landfill. In case the project participant, especially a municipality, possess facility for inert waste recycling or may be able to reuse items which are not classified as hazardous waste, it shall be discussed and proposed within the site-specific ESMP.

The identified impacts will be managed at sub-project level, while typical and recommended mitigation measures are specified in Appendix 7.

5.3 Adverse Social Risks and Impacts

5.3.1. Occupational Health & Safety Requirements (OH&S)

The project activities will mainly include construction works for (partial/full) retrofitting of existing buildings which are in use by the local communities, as well as street lighting improvement. However, although strict national regulation is in place, the experience is that low enforcement in practice is expected. In this regard, there is a moderate risk of insufficient enforcement of the OH&S measures for all sub-project activities.

Contractors shall meet the OH&S requirements according to the national regulation, as described in Chapter 3.1.1(9), and in accordance with the World Bank General EHS Guidelines, including the Energy Conservation specific guidelines. Furthermore, the ESMF proposes measures in terms of capacity-building and obligatory informative sessions for the management engineers and workers personnel, aiming to increase the awareness of the obligation to respect and conduct the proposed OH&S measures prescribed in the specific ESMP of the sub-projects.

As part of the OH&S measures special attention will be devoted to avoiding gender-based discrimination in the work place (including sexual harassment and bullying), with additional efforts being made by the PIU to raise awareness on these issues and provide responses if such cases occur.

In addition, the PIU monitoring personnel, including construction engineers and environmental and social specialists should be assigned a task to strongly oversee the implementation of the OH&S

Elaborates during the construction activities.

All potential negative impacts are expected to appear only in the construction phase of the sub-projects.

5.3.2. Community Safety Requirements

As the project will carry out construction activities in public buildings where potentially local population will be present, there is moderate risk for injuries or negative health impacts during the sub-projects' implementation. Crucial consideration shall be given to the time schedule for working hours to be set in a manner to avoid any disturbance to local people, for example, coordinate working hours with regular school/kindergarten/hospital hours, provide safe entrance/exit to/from school/administrative building/ambulance during the work in the corridors, toilets, prevention and protection measures from traffic accidents during the street lighting replacements, etc.

Site specific ESMPs to be prepared under the project will include, as necessary, a mitigation measures to reduce potential adverse impacts and risks and the public constructions will be carried out each of the construction site before the civil works begin.

No land acquisition is expected with the project. Thus, the Standard on Land Acquisition, Restriction on Land use and Resettlement standard - ESS5 is not relevant and related instrument will not be prepared for the project

All potential negative impacts are expected to appear only in the construction phase of the sub-projects.

PART 6. Environmental and Social Risk Management

As part of the environmental and social risk assessment, the Bank classifies all projects into one of four classifications: High Risk, Substantial Risk, Moderate Risk or Low Risk. In determining the appropriate risk classification, the Bank takes into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Client to manage the environmental and social risks and impacts in a manner consistent with the Environmental and Social Standards[35].

Environmental Risk Rating is assessed as *"Moderate"* because the anticipated risks and impacts associated with the implementation of civil works on sub-project level are localized, site-specific with low probability of serious adverse effects to human health and/or environment, limited in time, predictable and small in magnitude. At the same time, generation of some hazardous waste, considerable volumes of demolition debris and excess material are expected and will require proper handling to avoid negative impacts on the health and safety of workers, communities and the natural environment. The overall environmental footprint of the project will be positive. The capacity of the client to manage the environmental risks is satisfactory.

Social Risk Rating is assessed as *"Low"* as the work activities are limited in the nature and scope to energy efficiency measures in buildings. There will be no land acquisition impacts with the activities financed by the project. It is expected that small and medium construction companies that operate regionally within Northern Macedonia will be hired. This the labor influx risk is low. The PIU has experienced E&S staff and engineers which are cognizant and apply the Occupational Safety and Health Standards and safety at work standards with the contractors for the MSIP project. Given the low nature of risks and experienced staff at the implementing agency the Social Risk Rating proposed for the operation is Low.

The following risk management instruments and specific measures or actions planned to prevent, avoid, minimize, reduce or mitigate the environmental and social risks and impacts of the project over the project cycle:

ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

Component 1 of the project will support civil works, including typical building-level energy efficiency measures such as replacement of windows, walls, insulation of walls and roofs, improving or installing heating systems, and introducing switch of fuel from lignite/oil to biomass and district heating, or use of alternative energy sources, cooling, ventilation, optimization of natural lighting, etc. All buildings under the National Program for Energy Efficiency in Public Buildings (NPEEPB) are eligible for financing, however, the applications will be demand-driven, with specific sites to be selected in the course of the project implementation. This ESMF provides for a set of selection/screening criteria to be applied for the identification/confirmation of eligible sub-project sites. The ESMF identifies typical environmental risks likely to occur during the project implementation, provides for measures to ensure protection of cultural heritage buildings if those are proposed for retrofitting, specifies legislative and regulatory framework, considers procedures and institutional responsibilities and provides an outline for site-specific Environmental and Social Management Plans (ESMPs) to be developed by the client for each specific site/sub-project (see

[35] Only those ESS which are relevant for the project are covered

Appendix 6). The ESMPs shall be developed in accordance and with reference to the World Bank General and Energy Conservation specific EHS Guidelines. Anticipated environmental impacts indicated under this ESMF and to be comprehensively considered and addressed by sub-project specific ESMPs may include nuisance to neighboring communities and facilities, generation of construction and domestic wastes, need to handle excess materials, noise and dust from construction machinery and works, disposal of hazardous waste (e.g. asbestos) which may be generated during the building repair, are also addressed under this ESMF. The measures to protect the buildings proposed for retrofitting, which have been recognized as cultural heritage, shall be detailed in respective sub-project specific ESMPs and should be in accordance with respective national legislation and regulations. The ESMF also addresses environmental and social aspects of technical assistance to be provided under Component 1 (consultancy services to conduct energy audit, prepare detailed design and bidding documents with ESMP, monitoring, ensuring the quality and integrity of site-specific ESMPs), and under Component 2 supporting the establishment of the Energy Efficiency Fund (EEF). As the technical assistance under Component 2 will support the studies on the design and operationalization of the EEF, specific the requirements regarding the environmental and social aspects to be considered by those studies, which shall be further incorporated into the respective Terms of References (TORs). Following the identification of specific facilities to be retrofitted in the course of the implementation, the MF PMU will ensure the preparation of site-specific ESMPs which will address specific environmental and social impacts and determine adequate mitigation measures. The ESMPs will have to be disclosed prior to the commencement of civil works. With the anticipated large number of sub-projects (the available pool of the public building is about 2,441), the first ten ESMPs will require prior review and approval of the Bank, with all following ESMPs being subject to post-review on a selective basis. This approach is taken because most anticipated civil works will be similar in nature, with potential risks to be ranging from moderate to low, limited environmental footprint during the retrofitting and positive environmental impacts during the operation. In addition, the ESMF provides for a pre-approved template for ESMPs which will facilitate their preparation. The social section of the ESMF addresses the organization and the protocols for the project related Grievance Redress Mechanism, defined in the SEP, and are described in Annex 2 (Stakeholder Engagement Plan). The activities to be financed will not cause any impacts that is scope of the Land Acquisition, Restrictions on Land Use and Involuntary Resettlement Standard - ESS5. The Labor and Working Conditions - ESS2 will apply to the direct Project Employees, workers hired by third parties (contractor and sub-contractor employees) and to the energy efficiency fund, to be established with the support of the project. The EE fund will be public entity but with detailed format yet to be identified. However, the employees will be hired by the public entity, and will fall either under the civil servants' category or employees of the public entities (such as funds or public companies). As part of the ESS4 Community and Health Safety Standard, the ESMF provides framework, while the site specific ESMP will define potential disturbance to the nearby communities as well as improve the physical accessibility of the selected buildings for retrofitting.

ESS 2 – Labor and Working Conditions

The Contractors shall meet the OH&S requirements according to the national regulation, as described in Chapter 3.1.1(9). The OHS measures will be covered by site-specific ESMPs. Also, the OH&S Elaborate should be prepared by the Contractor during the preparatory phase of the sub-project implementation. Subject of approval by the Supervisor, the proposed measures from the Elaborate shall be implemented to protect the workers from injuries or negative health impacts during sub-project

implementation. The interior works (painting, surface preparation) can generate dust which contain hazardous substances such as lead and carbon fibers that could be inhaled by workers. Pouring liquids from one container to another could also release vapors that could be inhaled. Inhalation of vapors and aerosols, injections by high pressure equipment and skin contact are the most likely ways for substances used in spray painting to enter human body. These impacts should be addressed in Occupational Health and Safety and Community Health and Safety Elaborate, where preventive measures should be proposed and addressed.

This Elaborate should contain guidelines for the use of PPE during the implementation of rehabilitation works such as dismantling of asbestos-containing materials/roof sheets, proper prevention from possible injuries of the workers, students, employees in the school/administrative building/hospital facilities and local population during the dismantling of the old equipment, windows and doors, existing boiler, broken glass, etc. The Elaborate should include the time schedule for working hours to be set so that to avoid any disturbance to local people, for example, coordinate working hours with regular school/kindergarten/hospital hours, provide safe entrance/exit to/from school/administrative building/ambulance during the work in the corridors, toilets, etc. The Labor Management Procedure will be prepared as a separate document to guide the employers into satisfying the Labor and Working Condition Standard.

ESS 3 – Recourse and Efficiency, Pollution Prevention and Management

The project by its nature is expected to significantly improve the use of energy resources and generate benefits through the introduction of resource-efficient practices. The design of public buildings eligible for retrofitting will incorporate energy saving features, will aim at maximizing the use of natural lighting and can also suggest resource-efficient measures such as reduction of water loss, paper recycling practices, etc. The establishment of Energy Efficiency Fund shall help to make the achievements of the project more sustainable. Environmental damage due to improper management of construction waste, domestic waste and excess materials may cause expansion of project's environmental footprint. These risks and required mitigation measures will be determined by respective ESMPs. The contractors will be required to develop detailed Waste Management Plans (WMPs) prior to commencement of civil works. Specific arrangements for re-use or recycling of particular types of wastes as well as agreement on hand-over to secondary users will be included where feasible. These particular types of wastes will include, inter alia, old fluorescent lamps and tubes to be disposed and recycled as hazardous wastes as they contain a small amount of mercury. Also, the Waste Management Plans should prohibit the use of dismantled old doors and windows for heating in particular if they have been painted or varnished over.

Water pollution prevention. In case of sub-project envisaging use of local water streams for small-scale electricity production as renewable and free energy, appropriate Elaborate for environmental impact shall be prepared in accordance with the Rulebook for EIA (Off. Gazette No. 36/2012), prior to the preparation of respective ESMPs. For water spraying for dust stabilization during demolition activities, it is recommended to use technical water to the extent possible.

When the construction site is located near water bodies (spring/river/lake), it is strictly forbidden to dispose waste generated during the construction near or into the water bed, due to possible pollution, increased sedimentation and disruption of the ecological status/water and flow regime of the water body.

All types of generated wastes should be temporary disposed on designated locations within the construction site, which should be demarcated and protected from accidental leakage of the waste causing pollution of the soil and underground waters.

If sub-project's location is in a rural area without sewage system, the design of sub-projects for rehabilitation of building for energy efficiency, should provide installation of chemical mobile toilets with proper capacity depending on the number of users.

In the urban areas waste waters should be disposed into the municipal sewage network.

Raw material use. Bidding documents used for the procurement of civil works should specify the requirements to raw materials, including the availability of national or international certificates for quality and environmental standards. This will be monitored at the civil works implementation phase.

Air pollution. Vehicles for replacement of street lights shall be driven in the most efficient way aiming to minimize air emissions. During the demolition of old wood windows and facades, workers shall be completely protected from dust inhalation and skin irritation, and water spraying shall be implemented aiming to stabilize the wider dust emission. All these measures shall be described in the respective sub-project ESMPs, followed by the Elaborates for OH&S of the Contractors.

Formation of recovered material and construction debris. Prior to start of the activities on each sub-project, the Contractors should prepare a Waste Management Plan in compliance with the relevant ESMP of the Sub-project Appraisal Document, in order to ensure proper management of different waste streams produced on and near the sites. The Plan should include guidelines and instructions for waste sorting out and separation (hazardous vs. non-hazardous waste), re-use (where possible), transportation and final disposal (indication of appropriate locations/sites for waste disposal).

For proper waste management it is essential that the communication between Contractors and the municipality staff is established from the beginning of sub-project, in order to get guidance on where to dispose different waste streams. It is also important to keeprecords on temporary and final disposal of wastes. The Contractor is obliged to sign an agreement with municipal communal enterprise for taking generated inert and non-hazardous waste from the construction site.

The Contractors should pay close attention to asbestos containing wastes, which are likely to appear when dismantling old roofs and walls, and avoid and mitigate adverse environmental impacts, especially impact on health of workers and other people, which can be caused if wastes are handled inappropriately. The characterization of hazardous waste is conducted according to the *Law on Waste* and *List of Waste Codes – Official Gazette of RM No. 100/05)*. The code for this kind of hazardous waste is 17 06 05 (accompanied with asterixis* which means that it is a hazardous waste and precautionary measures are needed to minimize the risks of human health). The national waste related legislation should be taken into consideration before development of the Waste Management Plan, and special attention should be paid to the following legal acts: a) *Rulebook of detailed conditions on the handling of hazardous waste, and on the manner of packaging and labelling (O.G. of RM No. 15/08);* b) *Rulebook on the handling and management of waste containing asbestos and waste from products containing asbestos (O.G. of RM No. 89/06).* In general, all types of hazardous waste which might be potentially derived from the sub-projects' activities (replacement of old glass wool insulation, demolition of old wooden painted windows and facades, replacement of mercury containing (street) lights, etc.) shall be marked with the appropriate Asterix (*) sign and handled with the prescribed legislative measures.

Before the start of the work, the Municipality that is beneficiary of the sub-project, and Contractor must inform respective national authorities (Ministry of Transport and Communications, Inspection for civil works and Labor Inspection) about:

- The location of the worksite,
- The type and quantity of asbestos/hazardous waste,
- The activities and processes involved,
- The number of workers,
- The duration of the work and
- Measures taken to limit exposure.

If hazardous waste is generated at the construction site, the Contractor should sign contracts with authorized collectors and transporters thereof. The list of companies that have received the License for collection / transport of hazardous waste can be found on the web site of the Ministry of Environment and Physical Planning (***www.moepp.gov.mk***). The Contractor or the authorized company should have signed Contract with the landfill "Drisla" licensed to accept hazardous wastes for the final disposal of the asbestos containing panels/materials and keep and present appropriate proof records to evidence this delivery.

Chemicals and hazardous materials should be managed according the hierarchy for avoiding, minimizing and controlling their use during the reconstruction of buildings for energy efficiency purposes. This is limited to the activities such as use of paints for refurbishing of walls and facades and use of new insulation materials.

ESS 4 – Community Health and Safety

Adverse impacts on the health and safety of surrounding communities/building tenants and staff may occur during retrofitting/renovation of buildings. Risks include generation of waste, noise, dust, transportation of construction materials, and possibility of unauthorized entrance to renovation sites. There are also risks related to natural disasters such as floods, landslides and earthquakes which should be taken into account when selecting the sub-project sites and preparing the design for building renovation. The types of communities and project-affected persons (PAPs), the types and magnitude of potential negative impacts as well as adequate measures to mitigate the anticipated impacts, including the disaster related ones, are discussed in the SEP and further detailed in site-specific ESMPs. In the ESMPS the provision of services, while the retrofitting activities, will be addressed and solution provided so there is no interruption of the services while the works are ongoing. Depending of the situation the service would be displaced temporary in other location or adjustment will be done in respective facilities. Those ESMPs, once prepared, will be duly disclosed and discussed with communities likely to be affected, to raise awareness of the project activities, educate people on potential and precautionary measures to be taken by contractors, including site safety and access restrictions. The project will be used also to assess and if feasible to improve accessibility, for disabled, of the selected facilities.

There might be a possibility for temporary resettlement of students from schools or administration staff from municipal buildings in case there's no possibility to otherwise organize the construction site.

Road traffic. Any effort will be made to minimize the time spent on construction vehicles and trucks on the roads, in order to prevent any incidents or damage to property. Drivers will be warned that they should

move with caution. Speed restriction in work areas and road traffic with heavy machinery will also be regulated. The proper organization of traffic will also prevent a negative impact on traffic, as far as possible.

ESS 5 – Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement

The Energy Efficiency measures do not foresee any land acquisition, restrictions on land use and involuntary resettlement. The sub-projects approved will include only public building owned by the municipalities or Ministry of health.

ESS 6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources

This standard is not relevant because the Project will support works in the already existing buildings within urban and peri-urban areas, thus, no impact on biodiversity and living natural resources is envisaged.

ESS 7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

This standard is not relevant because no indigenous people are known to reside in Macedonia.

ESS 8: Cultural Heritage

The position of Republic of North Macedonia has always been an important territory, where different civilizations met. All of these civilizations that ruled this part influenced the area with their culture and customs. These civilizations have left their traces on this territory in a form of different cultural and historic monuments. Many of these were destroyed by wars and earthquakes, but many have been restored and witness the rich history of Macedonia. The cultural heritage of Macedonia includes archaeological sites, Byzantine churches, monasteries and frescoes, old fortresses, old market places, mosques, etc. Each town, settlements in Macedonia has something specific to offer.

There are quite numerous archaeological sites, all over the country. Remarkable archaeological sites from the classical antiquity period are the towns of Stobi (near Negotino), Heraclea Lyncestis (near Bitola), Scupi (near Skopje), and Bargala (near Shtip), Stibera (near Prilep).

There are other significant cultural heritage sites but not all are protected - some are already applying for becoming UNESCO cultural heritage sites, some are waiting better times when appropriate resources will be allocated in order to shine with all its beauty and truth. Ohrid and Lake Ohrid are recognized as UNESCO natural and cultural heritage sites.

By now, in the Republic of North Macedonia, only four areas are registered as national parks: Galichica, Mavrovo, Pelister and Jasen, which cover an area of approximately 110,000 hectares. In the following decade a three more are expected to become registered as national parks.

Cultural Heritage Protection Office of the Republic of North Macedonia, within the Ministry of Culture prepares a register of all protected material and non-material cultural heritage of the Republic of North Macedonia.

According to the data of the State Statistical Office, in the Republic of North Macedonia there are 28 museums, of which 19 are public (national) museums, 8 are public (local) museums and one is a private museum. In relation to the content it offers, 18 are general and 10 are specialized museums.

In 2015, these museums organized 102 own exhibitions, of which 85 exhibitions were organized by general museums and 17 by specialized museums. Some 36,980 of 224,779 inventoried exhibits in the museums were displayed in 2015.

In 2017/2018 there were 1343 performances in the 19 professional theatres (including the two professional youth and children's theatres) and 55 in the 8 amateur theatres. Also, small number of 14 cinemas played 16,228 movie projections in 2017.

In case of chance find of cultural heritage or proposed building by municipalities that is considered cultural heritage, the procedures prescribed by the Law for protection of cultural heritage[36] will be followed, as well as procedures prescribed in the relevant rulebooks[37]. These will be duly reflected in the respective sub-project specific ESMPs.

ESS 10 – Stakeholder Engagement and Information Disclosure

Project preparation has done an extensive mapping of the stakeholders. Individuals and groups likely to be affected (direct beneficiaries) have been identified. They include: school children, teachers, administrative staff, doctors, medical staff, patients, local communities, women, workers, contractors and transporters. Mapping of other interested parties such as government agencies/ authorities, rival / extremist groups, NGOs and CSOs, which may differ between subprojects, will be done during implementation. Given the highly diverse stakeholder profile and that their expectations and orientation as well as capacity to interface with the project are different, a Stakeholder Engagement Plan (SEP) is developed and is attached as Annex 2. This will enable the project not only to identify elaborately different stakeholders but also provide an approach towards reaching each of the sub groups. SEP will identify impediments during implementation as well, if any, at reaching out to stakeholders and reflect/ build capacity of the client in engaging with stakeholders. The Ministry of Finance, the implementing agency, will also develope and put in place a Grievance Redress Mechanism (GRM) to enable stakeholders air their concerns/ comments/ suggestions, if any.

The draft ESMF will be disclosed on the Ministry of finance web site for a period of 14 days, with public consultations to be conducted on the 14th day. The final version of this document will be used by respective government agencies and other Project stakeholders during the project implementation.

There are two options for Project stakeholders and citizens to submit complaints regarding the PSEEP i.e. the Project Grievance Redress Mechanism (GRM) and the World Bank Grievance Redress Service (GRS). Separate grievance mechanism for project workers will be established under labour management procedures.

Information about the Project will be disclosed on the Ministry of finance web site, with links provided from the web sites of the institutions with their representatives as members of the Coordination Committee. The Ministry of health, as well as the municipalities will additionally publish the information about each specific sub-project on their respective web sites.

Risk Classification

As part of the environmental and social procedures, WB categorization system for sub-projects is applied. The procedure to screen sub-projects against anticipated risks and assign risk ratings respectively is presented in Appendix 4 *"Screening of Risk Categories for Proposed Types of*

[36] http://uzkn.gov.mk/mk/закони/
[37] http://uzkn.gov.mk/mk/правилници-2/

Subprojects".

Towards addressing the risks, following instruments have been prepared prior to the project appraisal:

(i) Environment and Social Management Framework (ESMF);

(ii) Stakeholder Engagement Plan (SEP);

(iii) Labor management procedures (LMP).

The ESMF covers applicable ESF Standards and the World Bank Group's Environmental Health and Safety Guidelines. The ESMF introduces checklists for determining where and when site specific Environment and Social Impact Assessments (ESIAs)/Management Plans (ESMPs) will be necessary.

The Environmental and Social Management Plan (ESMP) shall identify feasible and cost-effective measures that may reduce potentially significant adverse environmental and social impacts to acceptable levels. The ESMP divides the project cycle into three phases: preparation, construction and operation. For each phase, the project team within the PMU identifies any significant environmental and social impacts. For each impact, mitigation measures are to be identified and listed. Estimates are made of the cost of mitigation actions broken down by estimates for installation (investment cost) and operation (recurrent cost). The ESMP format (enclosed in Appendix 6) also provides for the identification of institutional responsibilities for "installation" and operation of mitigation devices and methods. To keep track of the requirements, responsibilities and costs for monitoring the implementation of ESMP, a Monitoring Plan will be applied.

The ESMF also contains generic ESMP checklists for each type of small-scale construction envisaged by the project, namely retrofitting of buildings for energy saving, installation of renewable energy sources in the public buildings and replacement of street lighting.

PART 7. Public Sector Energy Efficiency Project ESMF Implementation Arrangements

Overall, activities for the PSEEP (Project) will be predicated on the principles of transparency, inclusiveness and responsive citizen engagement throughout the Process cycle. Citizen engagement values the right of citizens to have an informed say in the decisions that affect their lives. It is based on a two-way interaction and dialogue with local/government and emphasizes the sharing of power, information, and a mutual respect between government and citizens.

The Public Sector Energy Efficiency Project will be implemented by the Ministry of Finance of the Republic of North Macedonia as the main responsible institution in cooperation with the Ministry of Economy (MOE). Implementation of the project will be carried out through the established structure comprising: PSEEP Project Implementation Unit (PIU) and Coordination Committee (CC).

Regarding the implementation of Component 3, establishing the EEF, the GoRNM and Parliament made the necessary legal amendments[38] to provide the legal basis for establishing the EEF within the Development Bank of North Macedonia (DBNM). Furthermore, this updated ESMF also establishes the framework or the implementation arrangements of the initial capital fund of the PSEEP through the DBNM, as described in this chapter.

ESMF Process Flow at the Project Level

7.1 Project Implementation Unit

PSEEP Project Implementation Unit (PIU) will be located in the premises of the Ministry of Finance, staff from the current MSIP/MSIP2 will be part of the PIU for this project as well: civil engineers, experts to provide assistance on environmental and social safeguards issues, fiduciary staff (procurement and financial experts), grant coordinator, lead coordinator for the three components of the project. PIU will have main responsibilities regarding the Project implementation, project coordination, monitoring activities and reporting.

An independent Environmental Expert and Social Expert (EE and SE) will be engaged by the PMU on a full time or part time basis for the entire period of the project implementation. The EE AND SE will be responsible for ensuring proper environmental management of all Project activities, will conduct environmental supervision by carrying out document reviews, audit and site visits and interviews with Contractor, Construction Supervisors (if any), and municipality staff. EE AND SE would be responsible for reviewing all environmental safeguard documentation (site-specific ESMPs) submitted by sub-project proponents, providing recommendations, advising on the sub-project category advising on the quality of, and clearing the environmental and social safeguard documentation on behalf of the PIU. The ToRs for the EE and SEs is enclosed in Appendix 5.

Depending on the number of sub-projects implemented within the same period of time, it is

[38] The Amendments of the Law on Development Bank of North Macedonia (Official gazette No. 209 from 05.10.2023) accommodating the EEF provisions. The latest Amendment to the Law on Development Bank of North Macedonia (Official gazette No. 3/2025) was implemented to accommodate the roles of the new Ministry of Energy and raw minerals.

recommended that the EE and SE supervise Contractors' compliance with site-specific ESMPs and visits each sub-project at least once a month.

7.2 Project Coordination Committee

The project is subject to oversight from agencies with stake in the project or that are responsible for enforcing environmental laws. The PIU will facilitate the establishment of a Project Coordination Committee (PCC) that will guide the project implementation. The main function of this committee is (i) to ensure good inter–agency communications about project objectives, rules and implementation progress of the project; (ii) to advise the PIU on sectoral or inter-ministerial issues that may affect project-funded activities; (iii) to reinforce transparency in the selection of municipalities and sub-projects The Committee will be chaired by the Ministry of Finance. The PCC will meet twice a year. The PCC shall include 9 members, representing the following agencies:

- Ministry of Finance (Chairman plus two members)
- Ministry of Economy
- Energy Agency
- Government Institution in charge
- Ministry of Environment and Spatial Planning
- Ministry of Local Self Government
- Association of Units of local-self Government – ZELS.

7.3 Project Participants and Beneficiaries

Project participants include Ministry of finance, Ministry of Health, Ministry of Economy and Municipalities, which will be part of the project implementation process in some way.

Project beneficiaries include (Other interested parties) refers to: individuals, groups, or organizations with an interest in the project, which may be because of the project location, its characteristics, its impacts, or matters related to public interest. For example, these parties may include regulators, government officials, the private sector, the scientific community, academics, unions, women's organizations, other civil society organizations, and cultural groups.

7.4 Contractors and Consultants

Project contractors are responsible for complying with all environmental and social mitigation measures, requirements and procedures, and for the implementation of the respective sub-project specific ESMPs.

7.4.1 Sub-Project Design Consultants

For the proposed sub-projects by the project participants, detailed ***energy audits*** will be carried out by a certified and qualified company, in order to assess potential EE measures, estimate energy savings, assess their financial viability and identify potentially hazardous waste that may result from

the proposed renovations. These audits will take into account existing comfort levels and design renovations to bring the indoor temperatures to the national norms' levels (20-22° C). PIU will review and consequently, accept these audits.

After such audit is completed, PIU will engage qualified consultant companies to prepare ***detailed technical design***, including energy efficiency calculations, technical drawings, technical specifications, bill of quantities, ESMP and costs estimates of facilities subject to investment as well as design audit. The ESMP, as part of the detailed technical design will include analysis and quantification of presences of the amount of waste and hazardous waste materials, specifically asbestos and mercury containing light-bulbs, including methodology specifications and bill of quantities for removal, packaging, transport and disposal/interim storage of these hazardous materials, personal safety equipment and overall environmental and social mitigation and monitoring measures and estimate of costs as per the Environmental and Social Management Framework. This will also include the guidelines for location where the asbestos can be disposed and the interim storage location for the mercury containing light-bulbs as per the World Bank ESF, project ESMF and Macedonian legislation. The Ministry of Finance (PIU) will review and approve the final energy audit and detailed technical design, in consultation with Ministry of health and municipalities concerned. The sub-projects' design consultants will visit each sub-project site at least once, or more if needed, during preparation of technical documentation. During these visits, the consultants will meet with project participants to discuss any issues related to subproject implementation.

The sub-projects' design consultants shall be responsible for ensuring that respective provisions of sub-project specific ESMPs are duly incorporated into the project design. The sub-projects' design consultant will be required to retain a qualified EHSS Officer and comply with reporting requirements defined in this section.

7.4.2 Civil / Construction Works Contractors

Civil/construction works contractors will be contracted by (i) PIU for the grant sub-projects of the national level institutions and by (ii) project participants for the loan sub-projects of the municipalities, to implement their approved sub-projects. Contractors shall be also responsible for implementing applicable mitigation measures requirements identified in respective sub-project specific ESMP. The civil/construction works contractors will need to retain a qualified EHSS Officer and comply with reporting requirements defined in this section.

Civil/Construction Contractors' EHSS Officers

Each civil/construction contractor is responsible for retaining an EHSS Officer to oversee compliance with mitigation measures applicable to their scope of work. The construction contractors are responsible for selecting EHSS Officers with the necessary skills, experience, and availability to perform their duties adequately. Necessary qualifications include previous experience monitoring the implementation of mitigation measures on a project of similar scope and scale. The experience in World Bank environmental requirements is preferred. Construction contractors shall ensure their EHSS Officers have completed all necessary EHSS training prior to the sub-project implementation, as required per the H&S legislation. EHSS Officers will be responsible for the day-to-day implementation of mitigation measure requirements identified in respective ESMPs. EHSS Officers will be responsible for:

- Acting as the key point of contact for the PIU EE and SE experts, as well as supervisory body, regarding compliance with mitigation measures

- Ensuring that all personnel/workers, including subcontractors, have received H&S, environmental and social training prior to work on the project site and have been informed of mitigation measures and their associated responsibilities when working
- Ensuring that all personnel comply with mitigation measures
- Inspecting active work sites on a daily basis, and documenting compliance through completion of a daily compliance checklist and photographs (addressed in Appendix 9)
- Preparing required reports and managing compliance documentation during all phases of construction
- Ensuring that compliance documentation is complete and available for PIU or supervisory body auditing
- Managing any rehabilitation of environmental damage that may have occurred.

7.4.3 Construction Works Supervisory Consultants

Supervisory Consultants which will oversight the prompt implementation of the sub-projects by the contractors, will be engaged by the PIU for all sub-projects. They shall be also responsible for overseeing the implementation of the applicable mitigation measure requirements identified in ESMPs for the particular sub-projects. The Supervisory Consultants will need to retain a qualified EHSS Officer and comply with reporting requirements.

The Supervisory Consultants will prepare the *Acceptance Report*, followed by *Commissioning Report* and *Energy Saving Testing Report*. The Acceptance Report shall contain information on the implementation of the environmental and social mitigation measures as per the ESMP, including specific data on the dismantled/disposed demolition/hazardous waste, undertaken health & safety measures, any social related issues, etc.

7.4.5 Supervision in social context

The project will also develop and implement pre- and post-implementation customer satisfaction surveys and social monitoring aiming to track the number of total project beneficiaries and co-benefits during implementation, disaggregated by gender. The social monitoring and assessment of the implementation of EE measures will be conducted to define subjective perceptions of end users, employees and users of public services on indoor comfort satisfaction, as well as to define the level of knowledge and awareness of EE.

The social monitoring survey will be conducted over the project implementation period, and will be applied on a selected sample of buildings. The work will assess “pre-implementation (i.e., before implementation), and “post-implementation” (i.e., after implementation). The social monitoring will aim to measure: end users’ satisfaction, perception of indoor comfort levels, awareness of EE, and additional benefits from the EE improvements (e.g., reduced sick days, increased productivity, increased budget for other priorities, etc.) The analysis will also assess whether there are patterns based on the gender and this will be reflected in the gender-based analysis section of the social monitoring. Based on the findings the activity will provide a recommendation to the institutions that could be mainstreamed in the operations.

The social monitoring will be implemented by the PIU.

To implement the ESMF the PIU team will follow the Process Cycle for Component 1 as presented in Table 12 below:

Table 12: Process Cycle for implementation of Component 1 investments

	Activity	Lead Responsibility	Secondary Responsibility	Timeline (month for implementation of the activity)
1	Stakeholder Engagement Plan Implementation	MF/PIU	Public Consultations with NGOs and stakeholders	1, 2
2	Establishment of GRM at project and sub-project levels	MF/PIU	Contractors	*Lead:* Prior to project effectiveness *Contractors:* At the preparatory phase of the sub-project implementation
3	Gender Action Plan (GAP) development	MF/PIU		Prior to project effectiveness
4	GAP review and approval	MF/PIU		Prior to project effectiveness
5	Selection of sub-project proposals based on eligibility criteria: (i) fulfilled Basic Project Fiche requirements, (ii) positive screening of the environmental and social risks and (iii) acceptable recommendations from the Energy Audit Report.	MF/PIU	Project participant (applicant for the sub-project))	
6	Outreach and community public hearing for sub-project implementation	MF/PIU for Component 1a	Municipalities for Component 1b	
7	Development of sub-project technical design and ESMP (ESS instruments)	MF/PIU	Technical Design Consultants	
8	Public consultations for the sub-project ESMP	MF/PIU for Component 1a	Municipalities for Component 1b	
9	Sub-project design approval	MF/PIU	Consultations with project participants	
10	Project Appraisal Document (PAD) development and approval	MF/PIU by engaging a consultant	Project participants (applicants for sub-projects)	
11	Sub-project procurement for the works	MF/PIU for Component 1a	Municipalities for Component 1b	

ESMF Process Flow at the Sub-project Level

7.5 Identification of Subprojects

Under Component 1, Subprojects for energy efficiency investments in the public sector will be ranged and prioritized based on a participatory needs assessment at the village level. Investments will include energy efficiency measures in existing public buildings and improvement of the street lighting.

Public launching events will be organized in the 8 administrative regions of the country, aiming to promote and explain the sub-project preparation as well as to announce the scope of the public call

with eligibility criteria for submission of proposals. Public call will be announced by the Ministry of Finance/PIU and will be open for receiving proposals one month.

For the proposed sub-projects in the applications received on the public call which fulfil eligibility criteria, detailed energy audits will be carried out in order to assess potential EE measures, estimate energy savings and assess their financial viability, as well as to identify potential (non)hazardous waste that may result from the proposed renovations. PIU will also have responsibility to review and approve these audit reports. These audits will also consider existing comfort levels of the building and recommend design renovations to bring the indoor temperatures to national norms (20-22° C).

After such audit is completed, PIU will engage consultant firms to prepare detailed technical design, including specifications, bill of quantities and costs estimates of facilities subject to investment as well as design audit. This design will also include the investigation and quantification of presences of the amount of hazardous materials, specifically asbestos and mercury containing light- bulbs, including specifications and bill of quantities for removal, packaging, transport and disposal/interim storage of these hazardous materials, personal safety equipment and monitoring requirements (Environmental Mitigation and Monitoring Measures) and estimate of costs as per the Environmental and Social Management Framework (ESMF). This will also include the location where the asbestos/hazardous waste can be disposed and the interim storage location for the mercury containing light-bulbs as per ESMF and Macedonian legislation. At this stage contract will be signed between PIU and company only, PIU being responsible for taking over of the design, but with official and formal acceptance of the project participant in order to ensure proper level of responsibility from project participants' side. The project participant will review and approve the energy audit and design. The design company will visit the subproject site at least once during preparation of the technical documentation. During these visits, the company will meet with project participants to discuss any issues related to subproject implementation.

7.5.1 Screening of Subprojects for Environmental and Social Risks and Impacts

7.5.1.1 List of Non-Eligible Activities for PSEEP Subprojects

The initial screening for the eligibility of the subproject will be based on the list of excluded activities that will be not be permitted by the WB. Therefore, subproject proposals that include these activities will not be considered for financing.

Non-eligible activities for Component 1 subprojects are listed in Table 13 below.

Table 13. List of Non-Eligible Activities for PSEEP Subprojects

Require physical relocation or displacement;
Will cause negative impact on income/livelihood resources;
Involve any kind of forceful evictions of people;
Negatively impact assets of individual(s) or household(s);
Do not meet the required technical and quality specifications;
Have negative environmental or social impacts that are irreversible, create cumulative impacts and/or cannot be adequately mitigated;

Exclude the poor/marginalized population or otherwise vulnerable groups;
Do not provide equal pay for equal work for women and men;
Are financed, or scheduled to be financed, by the government or other development partners;
Include the payment of compensation for land or asset loss from the proceeds of the World Bank financing or other government sources;
Finance the construction of any new dams or the rehabilitation of existing dams including structural and or operational changes;
Finance private goods, government offices or religious buildings;
Involve activities that use forced labour;
Involve activities that cause or lead to child abuse, child labor exploitation or human trafficking; No child under the age of 15 should work on the construction, rehabilitation or maintenance of a sub-project[39].
Entail the purchase or use of drugs, military equipment or other potentially dangerous materials and equipment, including chain saws, pesticides; insecticides; herbicides; asbestos (including asbestos-containing materials); or other investments detrimental livelihoods including cultural resources; and
Involve development of new settlements or expansion of existing settlements in critical habitats, protected areas or areas proposed for certain levels of national protection (e.g., reserved forests).

7.5.1.2 Subproject Screening Procedures

Once it is confirmed that the subproject is not part of the list of prohibited activities, MF/PMU environmental and social experts in the fields will carry out a rapid assessment of the likely environmental and social impact, that will be based on the requirements of national legislation and WB ESSs, completing the screening form presented in the Appendix 7. Subproject activities will be also checked against WB criteria for High/Substantial Risk Projects.

This will make it possible to identify the type and scale of potential environmental and social impacts and determine to which risk category the subproject should be attributed. Generally, the significance of impacts and risks, contribute to resulting ESA categorization will depend on the type and scale of the subproject, its location, sensitivity of environmental issues, and the nature and magnitude of potential risks and impacts.

Type and scale of projects. Subprojects that are considered as "**High Risk Subprojects**" will not be financed. A "High Risk" rating generally would entail the following impacts (a) significantly impact on human populations, including settlements and local communities (b) alteration of environmentally important areas, including wetlands, native forests, grasslands, and other "critical" natural habitats and

[39] Articles 113, 67, and 174 of Labour Code set the minimum employment age as 15. In addition, there are some labour restrictions on what type of work can be done, and how many working hours are permissible by workers under the age of 18. Examples of labor restrictions include: age of 15 cannot work more than 24 hours per week while those under 18 cannot work more than 35 hours per week; during the academic year, the maximum number of hours is half of this, 12 and 17.5 hours, respectively. These limitations are consistent with the ILO Convention on Minimum Age.

ecosystem services; (c) direct pollutant discharges that are large enough to cause degradation of air, water or soil, endangered species and "critical" habitats; (d) largescale physical disturbances of the site and/or surroundings; (e) extraction, consumption or conversion of substantial amounts of forest and other important natural habitats, including above and below ground and water-based ecosystems; (f) measurable modification of hydrologic cycle; (g) hazardous materials in more than incidental quantities; and (h) involuntary displacement of people and other significant social disturbances.

Location. There are a number of locations which should be considered while deciding to rate the project as "High Risk": (a) in or near sensitive and valuable ecosystems and "critical" habitats — juniper forests, wetlands, wild lands, vulnerable soils, and particular habitats of endangered rare and endemic species; (b) in or near areas with archaeological and/or historical sites or existing cultural and social institutions; (c) in densely populated areas, where resettlement may be required or potential pollution impact and other disturbances may significantly affect communities; (d) in regions subject to heavy development activities or where there are conflicts regarding the allocation of natural resources; along watercourses, in aquifer recharge areas or in reservoir catchments used for potable water supply; and on lands or waters containing valuable resources (such as fisheries, minerals, medicinal plants, prime agricultural soils). Subprojects located in the proximity of such areas will be classified as High Risk projects and will not be considered for support by the PSEEP.

Sensitivity. Sensitive issues may include (but are not limited to): conversion of wetlands, potential adverse effects on endangered species and habitats as well as protected areas or sites, involuntary resettlement, impacts on international waterways and other transboundary issues, and toxic waste disposal.

Magnitude. There are a number of ways in which magnitude can be measured, such as the absolute amount of a resource or ecosystem affected, the amount affected relative to the existing stock of the resource or ecosystem, the intensity of the impact and its timing and duration. In addition, the probability of occurrence for a specific impact and the cumulative impact of the proposed action and other planned or ongoing actions may need to be considered. Taking into account the scale of the proposed subprojects, it is expected that the magnitude of their environmental impacts will be low to moderate and their social impacts will be low to moderate. Therefore, only subprojects that are rated as "Substantial Risk" or lower will be considered for PSEEP support as proposed in Appendix 4. Appendix 6 provides guidance on the various types of mitigation activities that could be proposed for PSEEP subprojects, as well as the different environmental categories and suggested EA instruments for each of them.

Results of the screening will be reflected in the screening form presented in the Appendix 5.

7.5.2 Development of Safeguard Instruments

For Moderate and Low Risk subprojects a simple ESMP will be required to identify, evaluate and to prevent potential environmental and social risks and impacts. The mitigation measures for the identified impacts and risks will be incorporated into the project design as a separate ESMP chapter (see Appendix 5 with the format of the ESMP) or ESMP checklist (see Appendix 7 with the ESMP Checklist for retrofitting of buildings and street lighting replacement activities). The ESMPs engaged Technical Design Consultant company.

The purpose of the ESMP is to predict potential effects and improve the environmental and social aspects of subprojects by minimizing, mitigating or compensating for negative effects. Environmental and Social Management Plan Checklists will be used for Moderate Risk subprojects that are likely to

have minor environmental impacts, and that are typical for small scale construction and rehabilitation investments in the public buildings.

To address potential environmental and social impacts in the case of rehabilitation of social infrastructure facilities it is proposed to use an ESMP Checklist (see Appendix 8). The ESMP Checklist has three sections: (a) Part 1 constitutes a descriptive part ("site passport") that describes the project specifics in terms of physical location, the project description and list of permitting or notification procedures with reference to relevant regulations. Attachments for additional information can be supplemented if needed; (b) Part 2 includes the environmental and social screening in a simple Yes/No format as well as specifies mitigation measures; and (c) Part 3 is a monitoring plan for activities carried out during the rehabilitation activities.

For Moderate Risk subprojects it is necessary to disclose the ESMP document and conduct public consultations with the project affected people and interested parties. For that purpose, it is necessary to disclose in advance the EA document (30 calendar days) on the MF/Project Participant websites as well as providing hard copies to local public administrations and key interested parties (environmental authorities). During the consultations, the subproject applicants will register all comments and suggestions on improving the site-specific ESMP documents and will prepare relevant reports to be included in the final version of the ESMPs. Furthermore, other specific information related to the project activities and EA should be also publicly available on-line on the MF/Project Participants website. Based on that the public consultation can be done virtually receiving relevant questions/proposals on-line and taking them into consideration while finalizing the ESMPs. A conclusion report with minutes from public hearing conducted shall be enclosed to the Project Appraisal Document (PAD).

Upon finalization of the public consultation process, the PAD containing appropriate ESMP will be submitted to the World bank team to receive the "no-objection" approval and furthermore to the Coordination Committee for final approval of the sub-project proposal for financing. The MF and project participants will then sign an agreement which will amongst other clauses, include statements on compliance with all EA/ESMP documents. Table 14 indicates the process flow for the risk management instruments development:

Table 14. ESMF Instruments Development for Component 1 Investments

Step 1	a) PIU (engineers and ESE) conduct screening of the subproject with regard to prohibited/excluded activities; b) If the subproject passes the screening for the list of prohibited/excluded activities, PIU ESE completes (*Appendix 8,* Environmental and Social Screening Checklist) WB Environmental Management Checklist to address potential environmental impacts; c) The results of the screening that are presented in the Environmental Management Checklist, including potential negative impacts and possible measures to mitigate impacts, are presented to community representatives during subproject prioritization meetings held at the municipality / community meetings.
Step 2	d) If the subproject is selected for funding, the Detailed Technical Design Consultant prepares ESMP for the sub-project, based on the Environmental Checklist;
Step 3	e) The Project Participant is conducting its disclosure of the draft ESMP and organizes a public consultation, involving NGOs, community representatives, affected groups, etc.

	Formal minutes will be prepared to record inputs provided by the participants in the consultation process.
Step 4	f) The subproject applicant will submit the full set of environmental documents for consideration together with the PAD for further decision on funding; g) Upon approval of subprojects, PIU will complete overall subproject appraisal and proceed with signing of the financing agreement with respective sub-project applicants.
Step 5	h) The project participant conducts periodical supervision, monitoring and reporting, using its enforcement capacities, as per agreed monitoring plan. i) The PIU EE and SE conduct ES auditing and monitoring during the implementation of the sub-project.
Step 6	j) Monitoring and reporting results will be included in the MF/PIU semiannual reports.

7.5.3 ESMP Review Process

As explained above, a site-specific evaluation will be conducted in accordance with the WB's Environmental and Social Framework (ESF), and site-specific ESMPs will be prepared as a result of such evaluation. These will be the responsibility of Detailed Technical Design Consultant, based on the information from the Environmental Management Checklist developed by PIU EE and SE. The ESMP must form an annex of bidding documents for construction works. Labor management procedures will also form a part of bidding documents for construction works. Implementation of ESMP on the ground will be the part of the construction contractor's task, however in case of any non-compliance; PIU will inform the project participant which is expected to take corrective action as the primary responsible party for law enforcement. Distribution of the responsibilities of all parties involved in the project is given in Table 15.

The preparation and implementation of ESMPs is expected to cost only a small fraction of design and construction cost, as most mitigation measures will be very generic, off-the-shelf, and implementable without specialized skills, experience or equipment. Moreover, it is assumed that the majority of cost is covered in the bid proposals. PIU will submit site specific ESMPs to WB for prior review, together with the PAD.

Table 13: Roles and Responsibilities

Responsible Party	Responsibilities
World Bank	• Review, approve and disclose the project ESMF including SEP and LMP on WB's official website; • Review the site-specific ESMPs and provide no objections to MF; • Review labor management procedures; • Conduct implementation support and supervision missions in order to ensure that the Project is in compliance with WB ESS requirements.
MF / PIU	• Prepare and implement the ESMF and submit for Bank approval; • Disclose the ESMF on MF website; • Prepare Environmental and Social Management Checklists according to ESMF and; • Submit ESMPs to the WB for prior review;

	• Perform the quality control and review of ESMPs; • Disclose ESMPs on the official website of MF (in case of national project participants) and incorporate ESMPs into bidding documents for contractors; • Prepare labor management procedures; • Assign ESE for the environmental and social monitoring; • Perform monitoring inspections of the implementation of ESMP by the construction contractors, make recommendations and decide whether additional measures are needed or not by the project participants in terms of law enforcement; • In case of non-compliance, ensure that the contractor eliminates the noncompliance and inform the WB about the noncompliance; • Prepare, update and implement a Stakeholder Engagement Plan (SEP) that considers vulnerable groups in addition to paying attention to the gender aspect of the Project; • Hold consultation meetings with project participants, contractors and supervisory consultants during the sub-project implementation to ensure proper implementation of the mitigation measures from the ESMPs; • Set up a multi-level GRM, monitor and address grievances related to the project under specified timelines; • Provide guidance to the construction contractors and engineering supervision consultants; • Summarize the environmental and social issues related to project implementation to WB in regular progress reports; • Be open to comments from affected groups and local/national authorities regarding environmental aspects of project implementation. Meet with these groups during site visits, as necessary; • Coordinate and liaise with WB supervision missions regarding environmental and social safeguard aspects of project implementation; • Conduct audits/post-construction environmental audits and regular monitoring activities for the implementation of site specific ESMPs;
Contractors	• Implement ESMPs on site, if required can revise the ESMP together with PIU/ESE; • Prepare and implement labor management procedures; • Manage the grievance mechanism at the contractor, communicate grievances to PIU/Project participant regularly through ESMP monitoring reports; • Monitor site activities on a regular basis (daily, weekly, monthly etc.); • Prepare the ESMP progress reports for the review of PIU/Project participants; and • Compensate or fix all damages occurred during construction (e.g., damages to soil, water infrastructure) as set out by the ESMP
Construction Supervisory Consultant	• Ensure that ESMP is implemented correctly and in a timely manner by the contractor; • Collect information on environmental and social issues for progress reports submitted to the WB and make sure that these are all compliant with the Bank's requirements
Project participants	• Perform environmental and social monitoring as defined in ESMF and sub-project specific ESMPs and enforce relevant legislation where necessary through its inspection bodies; • Collect information on environmental and social issues for progress reports submitted to the WB and make sure that these are all compliant with the Bank's requirements

7.6 Auditing

7.6.1 Pre-Construction Audit Report

The PIU environmental expert and Civil Works Contractor' EHS Officer shall survey the sub-project site prior to construction, to document the condition of all work areas, identify sensitive areas to avoid, and select the location of the worker camp (if applicable). The PIU environmental expert will prepare a pre-construction audit report that documents the detailed status of each sub-project work area prior to sub-project activities. The pre-construction audit report shall include:

- Description of each sub-project work area that identifies and describes the locations of previously disturbed or undisturbed features
- Areas that should be avoided to the extent feasible (e.g., private properties)
- Photographs of each work area and important feature from multiple angles if necessary

The pre-construction audit report and photographs will be compared to site conditions following construction and determine the adequacy of restoration.

7.6.2 Post-Construction Audit Report

The PIU EHS expert shall visit the project site following construction to document the condition of all work areas and sensitive areas adjacent to work areas. The status of each location and any issues shall be documented in a post-construction audit report prepared by the PIU environmental expert. Any issues identified with the condition of the work sites shall be addressed by the responsible contractor to the satisfaction of the PIU, prior to sub-project closure (with the Commissioning Report as described in Section 7.4.3).

7.7 Monitoring Frequency

Contractor EHSS Officers would be on site on a daily basis or otherwise defined in the ESMP' mitigation measures to inspect active work sites and verify compliance with all applicable mitigation measures for the work phase. PIU EE shall monitor the site on a biweekly/monthly basis during civil works, depending on the sub-project scope. More frequent monitoring may be conducted if needed to ensure compliance with the mitigation measures and resolution of any issues that are noted.

7.8 Compliance Reporting

7.8.1 Monthly Compliance Reports

Contractor EHSS Officers shall prepare and submit a monthly compliance report to supervisory consultant, project participant and the PIU EE and SE to document construction and compliance activities completed during the month, and to track the resolution of any issues that may have occurred. The reports should include the following information for the period:

- Summary of completed construction activities
- Estimate of remaining construction and schedule
- Summary of compliance activities
- Updated list of all EHSS incidents that occurred during the project
- Follow up information from any past issues that are still being resolved

- Photographs of project activities related to implementation of ESMP mitigation measures
- Daily compliance checklist each day that work occurs in the field.

7.8.2 Biannual Compliance Reports

The PIU shall prepare and submit a biannual compliance report to the World Bank to document construction and compliance activities completed during the period and to track the resolution of any issues that may have occurred, for all sub-projects under implementation. The PIU will use daily compliance checklists and monthly compliance reports prepared by the construction contractors to develop the biannual report.

The biannual report should include the following information for the period:

- Summary of completed construction activities
- Estimate of remaining construction and schedule
- Summary of compliance activities
- PIU's and supervisory consultants oversight activities (i.e., site visits)
- Updated list of all EHS incidents that occurred during the project, including attached notices of non-compliance that were issued
- Follow up information from any past issues that are still being resolved
- Photographs of project activities

7.9 Contractor Training

7.9.1 Health, Safety, Environmental and Social Responsibilities

Contractors are required to ensure their workers are adequately trained prior to beginning work on the project. In addition to applicable worker safety laws, mitigation measures identify specific health and safety requirements that each contractor must comply with. Those requirements should be in line with the World Bank General EHS Guidelines, including specific guidelines related to Energy Conservation.

Contractors are required to train workers on the environmental and social requirements for the sub-project as a whole, as well as how to comply with applicable mitigation measure requirements when completing their work. In addition to legally required H&S training, specific environmental and social training requirements shall be identified in the respective ESMP of the sub-project.

7.10 Incidents

7.10.1 Incident Reports

Contractor EHSS Officers are responsible for preparing and submitting incidents reports to the PIU EHS expert within 72 hours from discovery of the incident. EHSS Officers shall maintain a complete project record of incidents associated with their contract scope of work. The record shall be regularly updated and included with monthly compliance reports submitted to the PIU.

Examples of EHSS incidents include:

- Fires
- Accidents or "near miss" events
- Hazardous material spills that contaminate soil or water resources

- Improvement orders or notices issued by supervisory body
- Non-compliance with mitigation measures
- Construction workers injuries
- Sexual harassment
- Physical or verbal conflicts with local community

At a minimum, EHSS incident reports should include:

- Dates the incident occurred and was discovered, if different
- Description of the incident
- Mitigation measures /environmental/social laws that were violated
- Parties present during the event
- Corrective actions taken to remedy the issue and prevent it from recurring
- Any remaining actions that are required to correct the situation, such as rehabilitation

7.10.2 Notices of Non-Compliance

If any issues with compliance are discovered by the PIU EE and SE, the observing party shall submit a written notice of non-compliance to the alternate party and contractors that documents the issue and presents preliminary corrective actions, if applicable. Notices of non-compliance shall include the following information:

- Dates the issue occurred and was discovered, if different
- Description of the issue
- Mitigation measures/ environmental/social laws that were violated
- Parties present during the event
- Description of corrective actions taken
- Description of any necessary follow up actions or longer-term rehabilitation requirements if environmental damage occurred

7.10.3 Corrective Actions

Contractors are responsible for responding to and addressing notices of non-compliance in a timely manner and to the satisfaction of the PIU EE and SE. Contractors will be responsible for the rehabilitation costs and work effort associated with any environmental/health and safety/social damage that may occur due to non-compliance with mitigation measures/ environmental/social laws.

7.11 Grievance Redress Mechanism

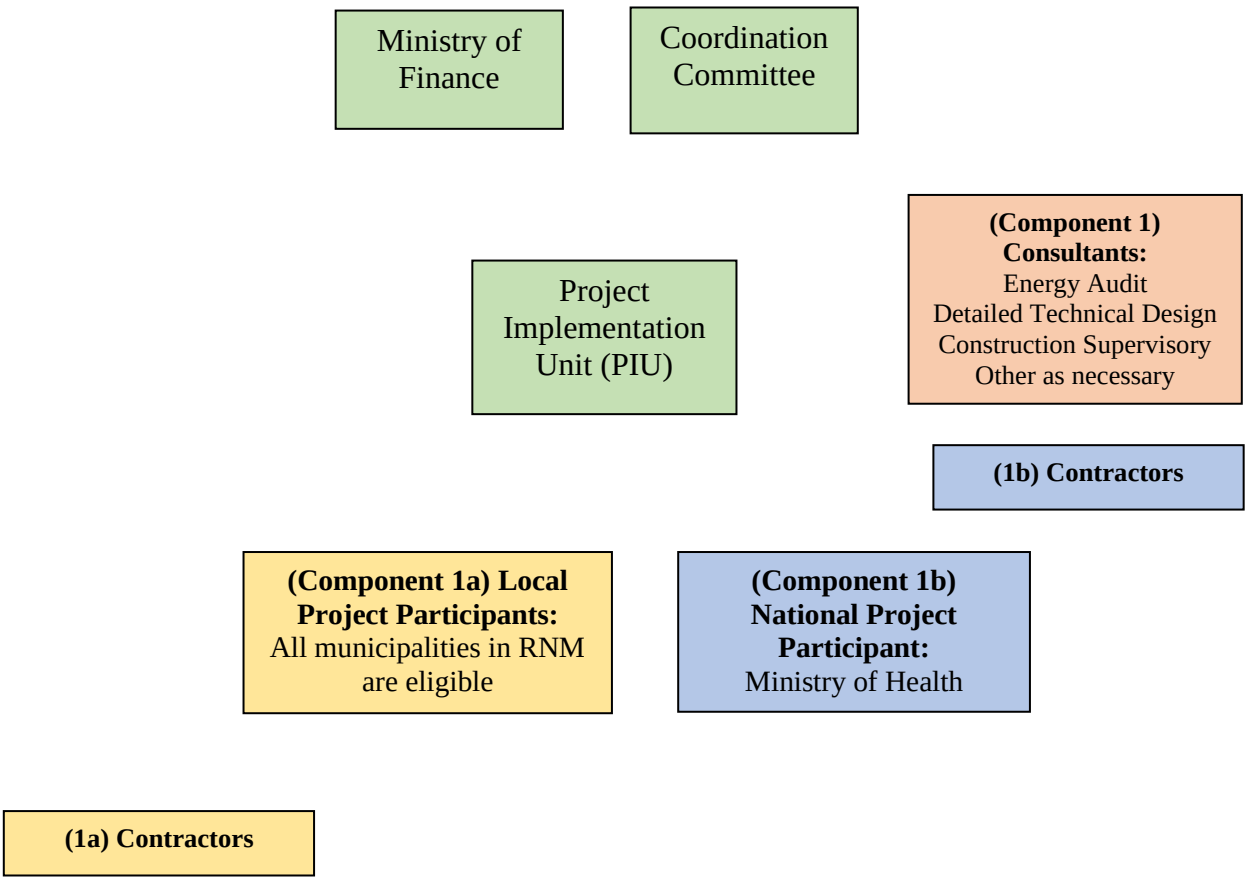
As presented in the Environmental and Social Commitment Plan (ESCP), the MF/PIU will develop the Grievance Redress Mechanism and obtain its approval by the World Bank prior to the Project / loan effectiveness.

7.12 Institutional Capacity and Capacity Building

7.12.1 Institutional Structure

This section outlines the institutional and management arrangements designed to effectively implement the mitigation measures for the project. The management structure for implementation of the ESMF process flow within PIU is illustrated in Figure 16. Financing for effective project management is set aside in the Component 2 of the project for technical assistance.

Figure 16: Project Management Structure



The current PIU established within the MF since 2009 for implementation of MSIP/MSIP2 financial arrangements has proven and sufficient capacities to implement the new PSEEP, including its current environmental and social specialists. This management expertise is critical to successful oversight of this ESMP.

7.12.2 ESMF and ESMPs Implementation Capacity

Due to the fact that this is first project of the Republic of North Macedonia to be implemented under the new ESF of the World Bank, it is understandable that the PIU technical staff, project participants, contractors and their workers, technical design and supervisory consultants have limited knowledge and capacities for proper implementation of the sub-projects' ESMPs.

To alleviate these limitations, capacity-building support will be provided to all institutional

structures involved in the project implementation, as presented below:

Training

PIU has the necessary EE and SE Experts. The qualified individuals shall meet the minimum qualifications defined in Appendix 5. The project will provide a technical knowledge base for energy efficiency in public buildings, street lighting and renewables. This knowledge base is also important for future development efforts in the country.

In office combined with field training is needed for the technical engineers of the PIU prior to the project start and first sub-projects implementation. Training requirements will include training for implementation of the measures in the mitigation plan, especially the H&S and labor management measures and their obligatory implementation on a daily basis.

The PIU technical assistance component will prepare and implement worker training programs. The training programs will be specific to the sub-project, incorporating information specific to retrofitting of public buildings, replacement of street lighting and installation of renewable energy production facilities, as well as mitigation measures in this ESMP. The mitigation measures in this ESMP also require that all staff working on the sub-projects' sites receive health and safety training.

Technical experts at the PIU will receive in the field training by working side-by-side with contractor engineers and workers. In the field training may be organized by topics, which include:

- Retrofitting of public buildings
- Replacement of street lighting (dismantling of old light bulbs, hazardous waste packaging, storing and transportation)
- Renewable energy production facilities (waste biomass use for heating, installation of photovoltaics and connection to the electricity grid, etc.)

7.13 Implementation arrangements for the Additional Funding obtained from WBIF

The practice throughout the Parent Project implementation phase between 2021 – 2024 demonstrated satisfactory implementation of the ESMF arrangements. The Parent Project ESMF remains applicable for the AF as well, considering that nature and scope of activities to be supported by the AF is very similar to the ones supported under the Parent Project. For the two targeted healthcare buildings, the ES screening phase was already implemented in 2023, which confirmed that the ES risk rating as Moderate for the proposed 2 sub-projects and called for the development of sub-project's specific ESMP Checklists. The Environmental and Social Management Plans (ESMP) Checklists were also developed based on the detailed technical designs, drafts disclosed and public consultation meeting was held on 28th July 2023 in Skopje. No major concerns were appealed and positive feed-back was obtained. Minutes of the public consultation process was prepared and are enclosed in Appendix 9 to this document.

The developed ESMP Checklists shall be integral part of the Grant Agreements, the tender documentation for renovation of the buildings and finally the Contract with the selected contractor for the construction works, thus ensuring the ES mitigation measures are obligatory for implementation by all involved and relevant parties.

7.14 Implementation arrangements for the EEF within DBNM

The practice throughout the Parent Project implementation demonstrated satisfactory of the ESMF arrangements. Thus, the existing ESMF arrangements will be followed for the assessment and implementation of activities to be financed under the EEF initial capital fund. To implement these, the EEF Committee shall adopt on its first constitutional session the Operational Manual which contains the ESMF of the Parent Project in full (Annex 9), and implement the ESMF provisions thereafter.

9. Prior to launching the operation of the EEF, the DBNM will hire an *Environmental and Social specialists,* both on a full-time basis, to ensure that ESMF arrangements are promptly implemented for the initial capital fund investments. In addition, one full-time *OHS (Occupational Health and Safety) specialist* will also be hired, to ensure the community safety and labor and working conditions/occupational health and safety, are properly managed as well. Annex 5 presents the ToRs for all three positions for full-time employment.

List of Appendices

ANNEX 1: Environmental and Social Commitment Plan (ESCP)

It will propose the Measures and Actions to Mitigate the Project's Potential Environmental and Social Risks and Impacts, Timeframe and Responsible authorities for implementation;

- Updated version as of February 2025

ANNEX 2: Stakeholder Engagement Plan (SEP)

It will propose clear mechanisms for addressing the concerns of the stakeholders who may be affected by or are interested in the Project.

- - Updated version as of February 2025

Appendix 1:

Situation Analysis of Legal, Policy and Institutional Framework for Energy Efficiency in North Macedonia

UPDATE NO.1: ENVIRONMENTAL AND SOCIAL FRAMEWORK FOR PUBLIC SECTOR ENERGY EFFICIENCY PROJECT

Abstract

1. Introduction

The aim of this analysis is to reveal the treatment of energy efficiency in the overall energy policy in North Macedonia, with emphasis on public buildings. Namely, the analysis should serve as a basis to define and evaluate feasibility of different options for the use of IPA grant funds allocated based on the Sector Operational Programme (SOP) for Environment and Climate Action 2014-2020. One of the activities defined in the SOP is '**Implementation of pilot measures of climate action and energy efficiency in public buildings' (Activity 3.2)**, the aim of which is to reduce CO_2 emission through improvement of energy efficiency and demonstrate lead-by-example of the public sector in energy efficiency.

In order to properly design this SOP activity and ensure its best fit to the actual needs of the country, it is required to analyse existing legal, policy (strategies and plans) and institutional framework for energy efficiency in Northern Macedonia.

North Macedonia is a signatory country to the Treaty establishing the Energy Community in South East Europe, ratified by the Parliament of the Republic of Macedonia, which entered into force on 1 of July 2006. By signing the Treaty establishing the Energy Community, North Macedonia has committed to implementing part of the European Union legislation concerning the internal market for electricity and natural gas, renewable energy sources, energy efficiency competitiveness and the environment.
In the field of energy efficiency (EE), *the acquis communitaire* comprises:

- Directive 2012/27/EU on energy efficiency (EED),
- Directive 2010/31/EU on energy performance of buildings (EPBD) and
- Regulation (EU) 2017/1369 setting a framework for energy labelling and repealing Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related.

The transposition of these directives into national legislation as well as strategic and planning documents which define overall energy efficiency policy in the country will be described and analysed in **Chapter 2** of this document.
Responsible institutions and other relevant stakeholders and their role in the overall implementation of energy efficiency policy are presented in **Chapter 3**, while **Chapter 4** bring the overview of past, current and planned energy efficiency projects and programmes and countries.
The document ends with **Chapter 5**, which outlines the major challenges in energy efficiency sub-sector, especially related to the energy efficiency improvements in the public sector buildings. The identified challenges will serve as a basis for the analysis of the alternative actions for the use of available IPA grant funds envisaged by the SOP. These are discussed in the **Chapter 6**.

2. Review of policy and legal framework for energy and energy efficiency

2.1. Legal framework for energy efficiency

The key legislative act for overall energy sector in North Macedonia is Energy law. The new **Energy Law**[40] was adopted in May 2018. The following provisions of the Energy Law are related to energy efficiency:

- Energy efficiency is recognised as one of the energy policy objectives of the Republic of North Macedonia;
- The energy policy of the Republic of North Macedonia shall be determined in the **Strategy on Energy Development**, which should, *inter alia*, determine measures to support the utilisation of renewable energy sources and incentive measures to increase energy efficiency;

[40] "Official Gazette of Republic of Macedonia", No.96/18

- Measures for energy saving and energy efficiency improvement shall be an integral part of the Programme for protection of vulnerable energy consumers, which is to be adopted on yearly basis;
- Within its jurisdictions, the Energy Regulatory Commission should aim to increase energy efficiency of the whole energy system;
- Energy efficiency, emission reduction and use of renewable energy sources are defined, *inter alia*, as criteria for obtaining the authorisation for construction of new energy facilities (electricity generation facilities, electricity and heat energy cogeneration facilities or heat energy generation facilities);
- In respect to the security of energy supply, prior to issuing tenders for new generation facilities, the Ministry is obliged to determine whether the security of energy supply can be ensured with energy efficiency measures and consumption management;
- Transmission system operator is obliged to submit each year an annual, five-year and ten-year forecasts for the electricity consumption, which must show the expected increase in the efficiency of the operation of the electricity transmission system by reducing the losses of electricity;
- Distribution system operator is obliged to submit each year an annual and five-year plan for the electricity distribution system development, which must show the expected increase in the efficiency of the operation of the electricity distribution system by reducing the losses of electricity and from the introduction of advanced metering systems and smart networks.

Although these provisions clearly show the strategic determination to improving energy efficiency in all parts of the energy cycle (generation, transmission, distribution and final use), there are no provisions in the new Energy Law that are transposing obligations stipulated in main EU directives that contracting parties of Energy Community are obliged to transpose. Instead, the Energy Law in its article 242 stipulates that the provisions of the old Energy Law ("Official Gazette of the Republic of Macedonia" No. 16/11, 136/11, 79/13, 164/13, 41/14, 151/14, 33/15, 192/15, 215/15, 6/16, 53/16 and 189/16) regulating the activities in the field of energy efficiency, shall be applied accordingly until the entry into force of the Law regulating the activities in the field of energy efficiency.

Taking into account the fact that the new Energy Efficiency Law is currently under preparation and that it is planned to be adopted in the first half of 2019, this analysis will focus on the provisions of the **draft Energy Efficiency (EE) Law**, rather than on provision of the old Energy Law.

According to the version from January 2019, the new EE Law will transpose the provisions of the Directive 2012/27 EU on energy efficiency, the Directive 2010/31/EU on energy performance of buildings and Regulation 2017/1369 on the establishment of an energy consumption labelling framework, as transposed and amended by the Ministerial Council of the Energy Community. The EE Law should regulate the following matters:

- efficient use of energy in the Republic of North Macedonia;
- energy efficiency policy;
- the competences of the Ministry responsible for energy affairs (hereinafter: the Ministry) and the Energy Agency of the Republic of Macedonia (hereinafter: the Agency) for the implementation of the EE Law;
- public sector obligations in terms of energy efficiency and energy consumption;
- the obligation scheme and alternative measures for energy efficiency;
- energy audits in the industry and the commercial sector;
- energy efficiency in transmission, distribution and supply;
- the performance of energy services and the ways of financing measures to support energy efficiency;
- the energy efficiency of buildings in which the industrial process does not take place;
- the labelling of energy consumption and the eco-design of energy-using products;

- other issues in the field of energy efficiency.

The draft EE Law stipulates that the energy efficiency policy shall be determined in the Energy Development Strategy. The national energy efficiency targets for 2020 and 2030 shall be adopted by Governmental decrees, while measures and activities to achieve these targets should be defined in **three-year National Energy Efficiency Action Plans (NEEAP)**. The NEEAP is prepared by the Ministry, adopted by the Government and monitored by the Energy Agency. Energy Agency is obliged to submit to the Ministry an **annual report on the realization of NEAAP**. The Ministry is obliged to submit the annual report to the Secretariat of the Energy Community.

At local level, the draft EE Law stipulates that local self-governments should adopt their three-year energy efficiency programmes containing:

- data on energy consumption in the unit of local self-government, cumulatively and by sector (industry, commercial sector, transport and housing);
- indicative targets for energy efficiency at the level of the units of local self-government, by sectors; 3) measures and activities for improving energy efficiency, by sector;
- deadlines in which the individual measures and activities should be implemented;
- the necessary funds for the implementation of the envisaged measures and activities, and the manner of their provision; and
- responsible body or person for implementation of each of the measures or activities envisaged.

For the implementation of the energy efficiency program, the council of the local self-government unit shall adopt an annual plan upon a proposal by the mayor. Both programmes and plans of local self-governments shall be submitted and approved by the Energy Agency. The Agency shall submit to the Ministry, by 30 April each year at the latest, a summary report prepared on the basis of submitted annual plans of the units of local self-government and information on the implementation of the programs, and the Ministry shall submit the report to the Secretariat of the Energy Community. The contents and methodology for preparation and mode for submission of local programmers and plans shall be prescribed by the Minister in the respective rulebook.

Special section of the draft EE Law is devoted to **energy efficiency in the public sector**, with the following obligations prescribed:

- buildings owned and used by public sector entities at the state level must meet **the minimum requirements for energy performance of buildings** prescribed in accordance with this Law, to acquire a **certificate** of energy characteristics that meets the minimum requirements for energy efficiency in accordance with the Rulebook on energy performance of buildings and to perform regular energy audits of those buildings, at least every 3 or 5 years;
- The Office for General and Common Affairs of the Government should prepare the list of all state buildings above 250 m^2 that do not meet the requirements and **prepare a three-year plan to renovate 1% surface of these buildings**, the funds for which should be provided from the Budget of the Republic of North Macedonia and from other sources;
- The public sector entities shall be obliged to monitor and manage the energy consumption in the buildings or construction units in which they perform the activity, for purpose of which Energy Agency will establish and maintain a single **information system for monitoring and managing the energy consumption of public sector entities** (hereinafter: "Information System"), the content and functionalities of which are to be prescribed in the rulebook on the Information System adopted by the Minister – each public entity should nominate person in charge of entering data in the Information System;
- In order to monitor the implementation of the energy efficiency measures for public sector entities, the Energy Agency shall establish and maintain an **electronic monitoring and verification tool**

available on the Internet (hereinafter: "MVP"), the features and operation mode of which shall be prescribed by the Rulebook on the MVP adopted by the Minister;

- public sector entities shall prepare annual reports on the energy management and energy performance of the buildings and construction units that include a description of the activities undertaken during the reporting period or which are planned to be undertaken in the next reporting period in order to improve the energy efficiency, as well as an estimate of the energy savings that may arise from such activities using data form Information System and MVP;
- public sector obligation to include **energy efficiency as a criteria in public procurement tenders** for energy related products, buildings and services, in line with the rulebook regulating the methodology for determining the level of energy efficiency and other requirements during the implementation of the public procurement procedures for goods and services in accordance adopted by the Minister and the guidelines for minimum technical criteria and other parameters to be respected by Contracting authorities, when carrying out public procurement issued by the Energy Agency.

Conclusion: The draft EE Law envisages strong actions to be undertaken by the public sector at planning, implementing and monitoring levels and, as such, provides a solid basis for the definition of grant programmes in this field. The provision to renovate annually at least 1% of the surface of state-owned buildings is in line with the EED (article 5) and represents serious financial obligation of the country, i.e. state budget or other financial sources need to be mobilised in order to fulfil this obligation.

Furthermore, the draft EE Law covers also the area of **energy efficiency in buildings** in a manner as follows:

- obligation of the Government to adopt **Strategy for reconstruction of buildings for housing, public and commercial buildings by 2030** and three-year program for the implementation of the Strategy;
- adoption of the **Rulebook on energy performance of the buildings** – it should prescribe the minimum energy performance requirements and calculation methodology for determination of energy performance of buildings and also energy certification of buildings in the following cases: 1) before putting into operation newly built buildings; 2) before putting into service of buildings and construction units subject to substantial reconstruction; 3) buildings or construction units that are subject to sale or lease, upon request from a buyer or tenant. Also, there will be an obligation to publicly display energy certificate for the buildings or building units with a useful floor area greater than 250 m^2 that are owned or acquired by public sector entities, as well as buildings or public utility buildings, as it is required by the EPBD.
- Provisions for obligatory inspection of heating and air-conditioning systems – heating systems or combined ventilation systems with an effective power exceeding 70 kW shall be obliged to carry out regular inspections of such systems, at least once every 4 years), while the manner to conduct these inspections is to be prescribed in the **Rulebook on energy control in the industry and the commercial sector**;
- In application for the building permit it is obligatory to conduct an analysis of the possible use of the highly efficient alternative systems;
- Obligation to adopt the **Plan for increasing the number of buildings with approximately zero energy consumption (nZEB)** as a part of NEEAP;
- the Minister shall also adopt **Rulebook on energy control (audit) of buildings** – it shall prescribe all operational issues related to energy auditing of buildings (content of audit report, eligible persons for energy audits, training requirements for energy audits, code of conduct of energy auditor, etc.); Energy Agency is responsible for quality control of energy audits and energy certificates; while the ministry would be responsible for holding the register of audits and certificates.

Conclusion: The draft EE Law transposes the main requirements of the EPBD and provides a strong basis for development of energy auditing and energy certification market, due to clear obligations of the public sector in this fields. On the policy level, there is a need to prepare and adopt the long-term strategy for renovation of the building stock (in line with article 4 of the EED) as well as plan for the increase of the number of nZEB. Although based on the old Energy Law there are relevant secondary regulation in this field, it will need to be at least updated to fit the requirements of new EE Law and relevant EU directives. Development of huge number of secondary legislations is needed to make the overall system for energy efficiency in the country fully operational. It will require time and expert capacities, which are currently scare within the relevant institutions (see Chapter 3).

There are other relevant provisions of the draft EE law that should be mentioned, although they are not directly related to energy performance of buildings or energy efficiency in the public sector. These are as follows:

- energy efficiency obligation scheme (in line with the article 7 of the EED) – the draft EE Law provides the legal basis for the scheme as well as for the use of alternative measures, while all operational details are left to be dealt with in the Governmental decree – the Energy Agency should be responsible for administering and supervising the scheme, with the assistance of the Energy Regulatory Commission;
- Obligation of large companies to undertake energy audits every 4 years (in line with article 8 of EED), whereas implementing details are to be prescribed in the Rulebook on Energy Control in the Industry and the Commercial Sector adopted by the Minister – the Energy Agency shall issue a certificate for the fulfilment of the obligations of the large enterprise;
- Ministry, in cooperation with the Agency, promotes the development and implementation of voluntary energy audits and the establishment of energy management systems for other entities in the industry and the commercial sector that are not large enterprises;
- Energy efficiency in transmission, distribution and supply of energy in accordance with the Energy Law and in control of Energy Regulatory Commission (in line with article 15 of the EED);
- Within the Program for the implementation of the Energy Development Strategy adopted in accordance with the Energy Law, among other things, contains a comprehensive assessment of the potential for applying highly efficient cogeneration in central heating and cooling systems; provisions for cost-benefit analysis and guarantees of origin for highly efficient cogeneration are also prescribed (in line with article 14 of the EED);
- Energy services and energy performance contracting is promoted by the draft EE Law, while details are to be provided in the respective Rulebook (in line with article 18 of the EED) – Energy Agency promotes energy services and at the same time encourages access to these services by small and medium-sized enterprises and public sector entities;
- Provision of information and awareness raising by the Energy Agency (in line with article 17 of the EED);
- Energy efficiency labelling of the energy-using products is to be prescribed by the Rulebook (in line with Regulation of EE labelling);
- The Government shall adopt a decree laying down the procedures, conditions, generic and specific requirements for the eco-design, internal control and systems for managing the conformity assessment, the specific obligations of traders, suppliers and importers of energy-using products, dynamics and deadlines the application of eco design requirements, the manner of performing inspection, and other rules concerning the eco-design of products that use or have an impact on energy;
- The Energy Efficiency Fund (in line with article 20 of the EED) shall be established as an independent and independent legal entity, which aims to enable the achievement of the goals and

support of the energy efficiency policies prescribed in this Law through financial and operational support of the investments in the field of energy efficiency, as well as financial and operational support for realization of the energy efficiency measures prescribed by this and other laws - the establishment, competencies, functioning and ways of financing of the Energy Efficiency Fund shall be regulated by a separate law.

Conclusion: With the adoption of the draft EE Law North Macedonia will indeed transpose the *acquis communitaire* in the field of energy efficiency. The draft EE Law takes into account all the provisions of the EED, EPBD and EE labelling as well as eco-design regulation. As already said, **the main challenge is to timely prepare/update and adopt all secondary legislation that shall ensure full operationality of the energy efficiency sector in the country**. To show the extent of this challenge, the Table below shows the secondary legislation that needs to be adopted after the new EE Law comes into the force.

Table 1. Overview of secondary legislation required by the draft EE Law

Secondary legislation or plan / deadline / responsibility	**Reference to EU directive**
Decree adopting the energy efficiency targets to be achieved by 2020 / 180 days after EE Law effectiveness / Government	EED Art 3.
Decree adopting the energy efficiency targets to be achieved by 2030/ 31.12.2019 / Government	Amended EED Art 3.
Decree establishing an energy efficiency obligation scheme / 180 days after EE Law effectiveness / Government	EED Art 7.
Plan for reconstruction of buildings used by the public sector entities / no deadline defined / Government	EED Art 5.
NEEAP / 30.06.2019 / Government	EED Art.24
Strategy for reconstruction of residential, public and commercial buildings by 2030/ 2 years after EE Law effectiveness / Government	EED Art 4.
Decree on eco-design requirements / 180 days after EE Law effectiveness / Government	Eco-design regulation
Rulebook on energy efficiency programs and annual plans of the local self-governments / 180 days after EE Law effectiveness / Ministry of Economy	EED Art 5.
Rulebook on information system for monitoring and managing the energy consumption of public sector entities / 90 days after EE Law effectiveness / Ministry of Economy	EED Art 5.
Rulebook on MVP / 180 days after EE Law effectiveness / Ministry of Economy	EED Art 7.
Rulebook on energy efficiency and other requirements in the public procurement procedures / 180 days after EE Law effectiveness / Ministry of Economy	EED Art 5.
Rulebook on energy control (audit) in the industry and the commercial sector / 180 days after EE Law effectiveness / Ministry of Economy	EED Art 8. EPBD Art 15. – 17.
Rulebook on terms and conditions for cost-benefit analysis of new facilities for generation of electricity and / or heat / 1 year after EE Law effectiveness / Ministry of Economy	EED Art 14.

Rulebook on guarantees of origin for high-efficient cogeneration / 1 year after EE Law effectiveness / Ministry of Economy	
Rulebook regulating on energy services / 180 days after EE Law effectiveness / Ministry of Economy	EED Art 18.
Rulebook on energy characteristics of the buildings / 180 days after EE Law effectiveness / Ministry of Economy	EPBD Art 3. – 8.
Plan for increasing the number of nZEB / 1 year after EE Law effectiveness / Ministry of Economy	EPBD Art 9.
Rulebook on energy audit of buildings / 180 days after EE Law effectiveness / Ministry of Economy	EPBD Art 11. – 13, Art 17. EED Art 16.
Rulebook on the control of energy certificates of buildings / 180 days after EE Law effectiveness / Ministry of Economy	EPBD Art 18.
Regulation on EE labelling of energy-related products / 180 days after EE Law effectiveness / Ministry of Economy	EE Labelling directive

2.2. Policy framework for energy efficiency

According to the Energy Law (article 11), the energy policy of the Republic of North Macedonia shall be determined in the Strategy on Energy Development (hereinafter: Strategy), which shall be adopted by the Government upon a proposal of the Ministry. The Strategy shall be adopted every five years and shall apply for a further period of at least 20 years. Currently, the **Energy Strategy until 2030, adopted in 2010.** is in force. The Strategy focuses on the period until 2020 and provides only a vision until 2030. The Strategy presents two development scenarios – baseline scenario and scenario with improved energy efficiency. The targeted primary energy consumption in 2020 amounts to 4211 ktoe or 3930 ktoe according to the baseline scenario and the scenario with strengthened energy efficiency measures respectively. The relevant specific energy consumption per unit GDP in 2020 will be 0.49 and 0.46 toe/1000US$2000 according to the baseline scenario and the scenario with strengthened energy efficiency measures, which is an improvement of the energy efficiency in 2006, expressed through this parameter by 31% or 35% respectively. Considering the above, the Strategy sets targets to **reduce energy intensity by at least 30% by 2020 in comparison to the energy intensity in 2006**. This means that efforts have to be made to implement the measures from the scenario with high energy efficiency. Furthermore, the Strategy defines the improvement of the energy efficiency in the production, transmission, and utilization of energy, in parallel with specific programs for reduction of the final energy consumption in all sectors, as one of its main goals. The following areas are determined to be of special interest: support for increasing energy efficiency and reducing the consumption of energy in energy extensive industries, utilization of heat pumps, greater share of renewable energy sources, gas and heating oil in comparison to electricity, improvement and enforcement of the primary and secondary legislation regarding the introduction of energy more efficient devices, improvement of the thermal insulation of the buildings etc. It is emphasised in the Strategy that the **state institutions should lead the activities for the improvement of the energy performance of public buildings**.

Conclusion: Clearly, the existing Energy Strategy is recognising energy efficiency as a cornerstone of the overall national energy policy. However, the Strategy has been adopted in 2010 and in the light of new legislative changes as well as achievements made so far, there is obviously the need to update it or better yet to develop the new Energy Strategy. It has to be emphasised, that pursuant to the new Energy Law, in 2018 Macedonian Science and Art Academy (MANU) started the procedure for elaboration of the Energy Strategy by 2035. At the end of 2018, the OUTPUT 1 (BASELINING) DRAFT - WORK IN PROGRESS

document was developed as basis for the Strategy. As exit documents presented: Scenario & draft modelling results: Energy and Electricity. The final draft of the Energy Strategy has been prepped in February 2019 ready for the process of the public discussion. As result of these activities, **it is planned by the end of 2019 to adopt the Strategy for Energy Development in the Republic of Macedonia for the period until 2040**.

The draft of the new Strategy until 2040 praises energy efficiency as one of the main sector's development goals, emphasises the leading role of the public sector and stipulates that activities for improvement of energy efficiency need to be undertaken in all final energy consumption sectors as well as in production facilities with special emphasis on district heating systems, transmission and distribution networks. It is envisaged that reduction of primary energy consumption will be between 34.9 and 51.8% in 2030 in comparison with business-as-usual scenario and in final energy consumption between 14.2 and 27.5%, depending on the intensity of implemented measures, i.e. development scenarios analysed in the drat Strategy. Following the adoption of the new Strategy, the Government should prepare a Program for implementation of the Strategy within six months. The Program should be prepared by the Ministry of Economy and should cover a five-year period. The program should anticipate the assumptions, funding opportunities, short-term and long-term outcomes, roles and responsibilities (local, national, company level) as well as the budget.

Note on strategic documents: The preparation of new Strategy is a very positive development in North Macedonia. Not only that this new strategic document is required by the Law and needed to guide the energy sector investment decisions, it will also provide a basis to develop other documents required by the Energy Community. Namely, the Energy Community has determined to transpose the Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action, according to which the integrated National Energy and Climate Plan (NECP) should be adopted. Therefore, it is expected that development of new national strategic documents in the field of energy and climate will soon commence.

It is important to note that the existing Strategy and draft EE Law recognises **the NEEAP as a key document that defines the energy efficiency measures**. The last available NEEAP for North Macedonia is 3rd NEEAP for the period 2016-2018. It contains evaluation of the implementation of the previous NEEAP as well as the sectoral energy efficiency measures, the implementation of which will contribute to reduction in end-use energy consumption, as well as measures on the side of production, transmission and distribution of energy, which should also contribute to considerable savings of primary energy for the period 2016-2018. 3rd NEEAP defines the national energy saving target to be 148.72 ktoe by 2018 and 226.27 by 2020. It has to be emphasised that NEEAPs are prepared in accordance with **the Strategy for improvement of the energy efficiency until 2020**, which is the basic national document dealing with energy efficiency and reduction of energy consumption. It defines the commitments needed to be made by the Government, specifies the required investments and the measures and instruments necessary to realize the energy efficiency policy of Macedonia are described in detail.

For the purpose of this analysis, it is important to analyse the measures that are predicted in the 3rd NEEAP for the public sector, and they are presented in the Table below.

Table 2. Overview of energy efficiency measures for the public sector

No.	Title of the energy saving measure	End-use targeted	Duration	Achieved energy savings in 2015 (ktoe)	Energy savings expected in 2018 (ktoe)
P. 1	**NPEEPB:** Retrofits in	Existing public buildings	2015 – 2018 (2020 and further)	5.99	9.09

	existing public buildings				
P. 2	Energy Management	Existing and new public buildings	2015 – 2018 (2020 and further)	0.96	1.56
P. 3	Municipal Street lighting	Municipalities	2015 – 2018 (2020 and further)	1.69	2.34
P. 4	Wider application of renewable energy (solar, biomass)	PSE	2015 – 2018 (2020 and further)	1.47	2.17
P. 5	Green procurement	MULS, PSE, PPB, EARM, MoF	2015-2018 (2020 and further)	0.22	0.36
P.6	Rehabilitation of water supply systems and sewage systems	MULS, PCEs	2015-2018 (2020 and further)	0	0.02
Sum of savings:				**10.33**	**15.54**
Share in overall energy savings target for 2015 and 2018 (%)				**12.90%**	**10.28%**

As it may be seen from the table above, the largest potential energy savings are from the retrofits of the existing public buildings. For that purpose, it was envisaged to develop and launch **the Draft National Program for EE in Public Buildings (NPEEPB)**. The NPEEPB should have ensured systematic and intensive implementation of energy efficiency in public sector but also quality monitoring of the implementation of the measures, their valorisation and preparing the required Report (legal obligation and commitment to Energy Community). The funding of implementation of the NPEEPB should have been accomplished through EEF (Energy Efficiency Fund), the establishment of which was predicted since 2015. It has to be noted that the draft National Program for Energy Efficiency in Public Buildings in the Republic of Macedonia until 2020 (Phase I) has been developed[41]. Specifically, the NPEEPB aims to provide input to the adopted target for reduction of energy consumption of the Public buildings, as set by the Strategy for improvement of the energy efficiency and the NEEAP. Furthermore, the NPEEPB aims:

- To provide support and incentives to public entities for implementation of their obligations under the Energy Law (at least 1 % of the total heated and/or cooled floor area of the buildings owned and occupied by the central government needs to be renovated each year to meet at least the prescribed minimum energy performance requirements – this requirement is also present in the new draft EE Law);
- To improve the conditions in public buildings in the country;
- To support the introduction of energy efficiency practices in the management of public buildings;
- To provide examples of energy efficiency practices to other sectors and

[41] Draft National Program for energy efficiency in public buildings in the Republic of Macedonia (Phase I) was developed under the GEF Sustainable Energy Project and with technical assistance of the World Bank Institute. However, it has not been adopted until now.

- To encourage the development of the market for energy efficiency services (ESCO market) and products in the country.

The NPEEPB is envisaged to engage 107.4 million EUR for reconstruction of 2235 public buildings (95.2 million for reconstruction and 12.2 million for energy audit of buildings, preparation of technical documentation and program management). The sum has to be ensured by soft loans, donation from international financial institutions and State budget. With the realization of all of the envisaged measures, savings of energy will amount to about 13,6 ktoe/annually, saving of funds of about 13,97 million Euro/annually, reduction in public energy use of 228 GWh/year, savings of 14 million Euro/year (through 2029), as well as 56 kt of CO2/year and reduction 1.5% of energy imports (~1.5 million Euro/year). Such activities will create 2,600-3,000 jobs in energy auditing, detailed designs, construction, fostering of commercial ESCO industry. This will contribute to NEEAP targets.

It is assumed that the energy renovation of buildings will primarily focus on buildings built before the 1990, with an average fuel consumption of thermal energy for heating over 150 kWh/m^2 year. Priority will be given to hospitals, kindergartens and schools. Target groups of the NPEEPB are:

- Buildings under jurisdiction of Municipal Units of Local Self-Government;
- Buildings under jurisdiction of Governmental Administration and
- Buildings under jurisdiction by public enterprises.

Typical EE measures, envisaged by the NPEEPB, aimed at thermal energy savings are:

- Thermal insulation on the outside walls;
- Replacement of the existing windows and outside doors with new, energy efficient ones;
- Thermal insulation of the roof (attic);
- Thermal insulation on the floor;
- Installation of Building Management Systems (especially systems for monitoring the overall energy consumption and for automatic control (AC) in existing heating substations in the public buildings);
- Reconstruction of boiler stations in existing hot water radiator heating systems;
- Replacement of existing room stoves operating on firewood with new, highly efficient ones.
- Replacement of existing radiator masks in kindergartens with new ones, to enable better emission of the heat produced from the radiator units.

Typical EE measures, envisaged by the NPEEPB, aimed at electricity savings are:

- Improvement of lighting arrangement;
- Replacement of existing pumps in hot water supply systems with new EE pumps and
- Optimization of working time of the pumps and fans of heating systems, through installation of BMS.

The measure P.4 - Wider application of renewable energy (solar, biomass) complements the measures envisaged by the NPEEPB (P.1) as installations of renewable systems, solar thermal systems in particular, were also required by the old Energy Law and existing Rulebook on energy performance of buildings. Target groups for this measure are the same as those stipulated by the NPEEPB.

Other measures that envisage investments and realisation of measurable energy and cost savings are P.3 - Municipal Street lighting and P.6 - Rehabilitation of water supply systems and sewage systems. The main objective of the measure P.3 is to stimulate the market for energy services in Macedonia and for the purpose of this analysis it will not be further considered, as it is not in the scope of the SOP, which focuses on the public buildings. The measure P.6 is focusing on the reduction of electricity consumption in water supply systems and sewage systems in municipalities. The measures that are envisaged are:

- Improving the pump stations in production plants, especially through replacement of old with new EE electrical drives and introduction of frequent regulation in existing electrical drives;

- Using of appropriate reservoirs for water storing;
- Improving of the existing sewage systems;
- Using of aerobic sewage systems, as one of the most efficient systems;
- Installation of RES systems for its own purposes, etc.

However, before the proposed measures are implemented, a reconstruction of the water supply network should be made, in order to decrease the percentage of water losses. According to some case studies, when the assumed water losses are 31%, then around 1/3 of the total annual energy consumption is related to satisfying of water losses. This is very important prerequisite for the implementation of measures for reduction of energy (electricity) consumption in these systems, which requires high investments that cannot be justified only through energy efficiency. It also has to be emphasised that potentials for energy savings envisaged by the NEEAP are really modest. And finally, this measure is not exactly in line with the SOP provisions, hence will not be further considered in this document.

Conclusion: Energy efficiency policy in North Macedonia is defined in the NEEAP, as envisaged by the EED. However, the last NEEAP covers the period 2016-2018, hence currently there is no plan enforced that will be basis for the actions. It is envisaged to develop new NEEAP for 2019-2020, while for period 2021-2030 NECP will define the targets and measures for energy efficiency. Therefore, there is still lots of work to be done to define short-term and long-term energy efficiency policy in the country.

However, the NEEAP 2016-2018 provides a solid basis for defining and implementing pilot activities, such as grant sheme under the SOP. Namely, public sector measures heavily rely on the NPEEPB. The measure P.1 for the 3rd NEEAP demonstrates the highest potential for energy savings, hence could contribute to the national energy saving target the most. It could be easily combined with the measure P.4, which will ensure integral (deep) renovation of public buildings and disable the 'lock-in' effect that may occur when implementing individual measures.

SOP for Environment and Climate Action 2014-2020 also represents the policy document that provides the basis for energy efficiency related actions. At this moment, it is very important to reflect on the targets set in the SOP in terms of energy savings. These are shown in Table below.

Table 3. Indicators for the activity 3.2 of the SOP

Indicator	Targets 2020	Means of Verification	Institution in charge
Submission for application to use funds from the grant scheme	10 applications	Submitted application to use funds from the grand scheme	MoEPP, ME
Number of measures for energy efficiency in public building implemented	Base line 0, 0 by 2017, 5 measures by 2020	Measures accepted by authorities of protected areas and public building	MoEPP, ME and management authorities of public buildings
ktoe/year saved in public buildings (2012 baseline is 40.8 Ktoe)	13.6 ktoe/year by 2020	Energy reports	Energy Agency, Ministry of Economy

In the case the grant scheme is established, it is envisaged that at least 10 applications will be submitted, with 5 measures implemented and energy savings of 13.6 ktoe/year achieved. There are several issues problematic with these indicators:

1. Number of applications submitted to the grant scheme is set to be quite low, given the fact that there are 84 municipalities in the country and several thousands of public buildings - however, given the fact that regular framework is not completed and that obligations for energy audits and energy certification of the public buildings are not being enforced, this value is set to be on the conservative side and should not be changed;
2. Number of measures to be implemented in the public buildings is set to be 5 – this indicator I very imprecise, as there is a distinction between a measure and a project. Usually, energy efficiency project comprises several energy efficiency measures to ensure optimal results in terms of energy savings and avoidance of lock-in effect. Therefore, this indicator may even be fulfilled through energy renovation project in only one public building, which for sure was not the intention of the SOP. Therefore, this indicator should relate to the at least five buildings being renovated with applied energy efficiency measures that will lead to measurable energy consumption reductions.
3. The most problematic indicator is the last one. i.e. the expected energy savings from the projects implemented under the grant scheme. Namely, **13.6 ktoe (158.17 GWh) of energy savings in 2020, given the fact that the grant scheme has not yet been established is simply not possible to achieve**. This number is taken from the draft NPEEPB and represents the total estimated potential for energy savings in the public sector, if measures with the pay-back period under 7 years are implemented on the whole public sector building stock, for which the investments over 95 million Euro would be needed. Therefore, this indicator needs to be adjusted to realistically reflect the possibilities of the grants scheme.

Conclusion: SOP targets heavily build on the draft NPEEPB but does not define the target for energy savings in line with the realistic possibilities in terms of preparedness of projects, time frame for implementation and available financial resources. Targeted energy savings are extremely overestimated and are representing the potential achievable if the all public sector building stock would be renovated in the cost optimal manner, as predicted by the draft NPEEPB.

2.3. Final remarks on legislative and policy framework for energy efficiency

The overview of legal and policy framework presented above is summarised in the Figure below. It has to be noted that the focus is on general documents and documents that include public sector, while plans and programmes for other specific sectors are not presented.

Figure 1. Overview of legal and policy documents for energy efficiency

The analysis of existing legal and policy documents for energy efficiency shows that the significant progress has been made to it completion. However, very intensive work is still ahead competent institutions to finalise and adopt the new EE Law and all regulation and well as programmes and plans envisaged by it.

Regardless the legal and policy framework being still under development, that cannot be the reason for the lack of actions, especially when it comes to the use of available IPA funding. The main features of this framework are known and aligned with the EU requirements, hence can be used for definition of pilot activities, that can, by bottom-up principle, even contribute to the better definition and/or refinement of adopted and drafted document.

3. Stakeholders analysis

An essential prerequisite for the successful implementation of energy efficiency policy, apart from the enabling legislative framework, is capacitated institutions with clearly defined roles and responsibilities. This is recognised in the 3rd NEEAP, which clearly states that organizational structure for implementation of energy efficiency policy in the country has proved to be insufficient and inefficient during the previous period.

There are two crucial state institutions for the definition, implementation and monitoring of energy efficiency policy in the country:

- **Ministry of Economy** (MoE) – Department for Energy, and
- **Energy Agency** (EA).

The Energy Department, within the MoE, oversees the entire energy sector and is currently in charge of all energy efficiency-related issues, especially from a policy and legislative perspective. According to the draft EE Law, the roles of the Ministry are as follows:

- drafting and proposing a Strategy for reconstruction of buildings, in cooperation with the ministry competent for the construction industry;
- drafting and proposing NEEAP to the Government;
- performing supervision over the work of the Agency and the units of local self-government, in accordance with laws;
- issuing licenses to companies and sole proprietors for carrying out energy audits in industry and commercial sector and energy audits of buildings;
- issuing authorizations for energy auditors in industry and commercial sector and energy auditors of buildings;
- keeping a registry of authorized energy auditors and licensed companies and sole proprietors for performing energy audits and updating such registry every six months;
- preparing an annual report for the implementation of this Law, which it submits to the Secretariat of the Energy Community; and
- performing other responsibilities in accordance with the Law.

Conclusion: Based on the information provided by the MoE, there is not one employee who is dedicated solely to energy efficiency issues in the MoE, let alone a division, i.e. a team of people who will be able to cope with all obligations that are envisaged by the Law, relevant directives and obligations towards Energy Community. This situation represents one of the greatest barriers to faster and stronger implementation of energy efficiency policy in the country.

According to the draft EE Law, the roles of the Energy Agency are as follows:

- proposing measures for the creation and implementation of energy efficiency policies;
- submitting initiatives, as well as proposing and coordinating the preparation of studies and projects related to improving energy efficiency;

- at the request of the Ministry, participates in the preparation of proposals and drafts of secondary legislation, technical regulations, other legal acts in the field of energy efficiency and the implementation of this Law;
- upon request from the Ministry, conducts analyses and submits proposals to the Ministry for energy efficiency targets until 2020 and 2030;
- upon request of the Ministry, participate in the preparation of NEEAP;
- development of sectoral programs at the state level needed for the implementation of NEEAP;
- monitoring and reporting to the Ministry about the situation with the realization of NEEAP and its related programs;
- monitoring the work of the State Market Inspectorate regarding the market surveillance performed pursuant to this Law;
- issuing authorizations for legal entities for performing trainings for energy auditors;
- development of training programs for energy auditors;
- providing expert support to the units of local self-government or other state bodies in the development of programs and measures for improvement of the energy efficiency;
- management, maintenance and upgrading of the EE information system;
- managing, maintaining and upgrading the MVP tool; and
- performing other activities in accordance with the Law.

Conclusion: It is very positive fact in the institutional framework for energy efficiency in North Macedonia to have an implementing institution - the Energy Agency – responsible for supporting the Ministry in creation of policy and legislative framework as well as in monitoring the implementation of the policy and evaluating the results. The Agency may be considered as the central point in the country to aid and guidance to the stakeholders at the local level in all sectors. Therefore, its capacities need to be strengthened as well. According to the information received from the Agency itself, there is only 10 employees in the Agency, covering not only energy efficiency issues, which is not enough.

While the Ministry is responsible for legislative and strategic framework, the Agency for monitoring and evaluation of policy implementation, the institutional framework for energy efficiency in North Macedonia is missing the dedicated financial support. For that purpose, already in the old Energy Law (art. 130) it was envisaged to establish **Energy Efficiency Fund**. In the draft EE Law, there is also a provision that stipulates the establishment of the Energy Efficiency Fund. The Fund shall be established as an independent legal entity, the aim of which is to provide financial and operational support for the investments in the field of energy efficiency in North Macedonia. The Energy Efficiency Fund shall be financed through donations, budget funds, payments, duties and otherwise prescribed in accordance with this and separate law. The establishment, competencies, functioning and ways of financing of the Energy Efficiency Fund shall be regulated by a separate law.

Conclusion: With the establishment of the Energy Efficiency Fund, the institutional framework for energy efficiency in North Macedonia would be completed, with jurisdictions for policy development, policy monitoring and evaluation and policy implementation financing clearly divided between MoE, Energy Agency and Energy Efficiency Fund. However, establishment of the completely new institution is a lengthy and complicated process, hence it is not expected that the Fund would be established and full operational before 2021.

The most of energy efficiency related activities is supposed to happen at the local level, i.e. at the **municipal level**. However, although municipalities have the legal obligation to plan their energy efficiency activities as well as to monitor and manage energy consumption in the objects within their jurisdiction, this obligation is dominantly not fulfilled due to lack of capacities. Namely, according to information obtained by the Energy

Agency, only one third of all municipalities (out of 84 municipalities in total) prepared their energy efficiency programmes and annual plans, however on quite irregular basis. There are huge differences between the development level, size and human capacities within the municipalities, hence there is an imbalance in the level of the implementation of energy efficiency related activities.

Conclusion: In general, it may be concluded that municipalities need constant support for planning and implementation of energy efficiency activities. Provision of this kind of support should be a role of the Energy Agency, which should through advising and educational activities stimulate municipalities to act. Given the scarce human resources within the Agency, this remains as a crucial problem. The design of technical assistance programmes for strategic planning and project preparation, especially to the less developed municipalities could be beneficial for removing this barrier to energy efficiency.

For actual project to happen, it is also important to have within the country **competent experts** able to perform energy audits, complex energy analyses and to prepare credible project documentation according to which actual works on energy efficiency will be performed. Although the obligations for performance of energy audits and energy certification of buildings were postponed, the system for education of energy auditors has been established in Northern Macedonia, which is important prerequisite for implementation of energy efficiency activities on the larger scale. In the course of 2018, the energy auditors were trained in accordance with the Program for the Enhancement of Energy Controllers and the Ministry of Economy granted them the certificate to perform energy audits. **The number of issued licenses for performing energy audits is equals 77**. There is an active Association of licenced energy auditors (ZLEK) operating in the country and with launch of new legislative framework as well as financing programmes for energy efficiency, it is expected that the market for energy auditing will experience the growth.

Conclusion: In general, it may be concluded that there are sufficient experts in the field able to perform energy audits and design the implementation of energy efficiency measures.

The analysed above represent the most crucial stakehokders in the energy efficiency in the country. However, energy efficiency policy, being a highly multidisciplinary and multidimensional area, tackling all parts if the society, requires the participatory approach in all its phases – from the policy design, through its implementation, monitoring and evaluation, with the final aim to refine the policies and measures to best fit the actual needs of targeted groups. For that purpose, 3rd NEEAP has proposed to establish a **Watch Group – Committee (WG)** on energy efficiency. WG should integrate group of experts from key stakeholders in the government, academia, public, non-governmental and private sectors, consumer groups, etc. and should be established as a formal committee, adjacent to the Government, to convene on regular basis and discuss the direction and effectiveness of reform in energy efficiency and recommend actions, thus building a consensus among disparate energy efficiency stakeholders, while providing a platform for public discussion and lobbying of new legal initiatives. It can provide information to the Government on lessons learned and best practice in implementing energy efficiency strategies which will underpin the long-term success of the Strategy. An organization such as this has proven to be critical to the success of other governmental energy efficiency programs. Main tasks of the WG should be to:

- Oversee existing and proposed Government funds and grants;
- Engage stakeholders to enhance the effectiveness of existing and proposed funds and incentives (e.g. work with banking and property industry to increase awareness).
- Support national and sector specific information campaigns to increase awareness of energy efficiency options;
- Suggest, coordinate and enhance energy data collection;
- Report annually to Parliament on the effectiveness of all policies and measures and make recommendations for improvements;

- Engage with state and local authorities to encourage coordination, consolidation and collaboration of programs and policies and
- Lead a national program to stimulate EE skills, knowledge and work needed for a sustainable economy development.

The WG shall have equal parity of governmental versus non-governmental members to ensure fair ruling and unbiased decision-making.

Conclusion: It is highly positive that the main energy efficiency policy document recognises the need and benefits from the establishment of a dedicated WG. It has to be noted that such a WG has been in place for the process of new EE Law preparation. It is proposed to evaluate the effectiveness of such a WG exactly on the process of EE Law development and to keep it as a formal structure for all subsequent activities in energy efficiency field.

It is hereby, however, suggested to have a **core WG for energy efficiency** and **extended WG for energy efficiency.**

The core WG for energy efficiency shall comprise of the following institutions: Ministry of Economy, Ministry of Environment and Physical Planning, Energy Agency and Energy Regulatory Commission. These institutions are crucial for integrating energy efficiency into functioning of he energy sector (hence, the Regulatory Commission) and for ensuring full integration with climate and construction activities (hence, Ministry of Environment and Physical Planning). Once established, the Energy Efficiency Fund should also be a part of the core WG. The core WG should meet at least four times a year (quarterly) to discuss the progress, problems and solutions for triggering and scaling-up energy efficiency activities.

The extended WG should include also scientific community (MANU), association of local self-governments, representatives of business sector (chamber of economy), association of energy auditors, energy companies and NGOs active in energy efficiency field. The extended WG would be summoned at least once a year to discuss the progress and problems in the field, while targeted meetings on specific topics (e.g. development of specific regulation) would be held with relevant stakeholders on the as-needed basis.

4. Overview of complementary actions on energy efficiency

In North Macedonia, same as in other Energy Community contracting parties, the international donor community is very active providing technical assistance for energy efficiency. The overview of such programmes in Northern Macedonia is given in Table below.

Table 4. Overview of technical assistance programmes in North Macedonia

Area of support	Type of support	Support provider	Status
4th NEEAP preparation	Technical assistance to MoE	GIZ	On-going
Rulebook on MVP and trainings for the use of MVP	Technical assistance to MoE	GIZ	On-going
Support for the development of NECP	Technical assistance to MoE	GIZ	On-going
Energy Efficiency Obligation scheme	Technical assistance to MoE	EBRD	On-going
ESCO model (contracts) development	Technical assistance to MoE	IME project - Swiss Cooperation Agency	On-going
ESCO projects development (preparation of tendering documentation)	Technical local self-governments	EBRD – REEP Plus	On-going

Preparation of secondary legislation for energy audits in industry	Technical assistance to MoE	UNIDO	Planned
Preparation of secondary legislation of Energy Consumption Labelling and Eco Design and capacity building of market inspectorate	Technical assistance	USAID	Planned
Establishment of Eco-fund and financing energy renovation of public buildings	Technical assistance and Investments	WB	On-going
Transposition of EPBD – preparation of by-laws	Technical assistance to MoE	EBRD – REEP Plus	Planned
CONNECTA - Technical Assistance to connectivity in the Western Balkans - Building Stock Study for the Public Sector in WB6	Technical assistance	EU	On-going

As it can be seen from Table above, the GIZ and EBRD are providing the largest share of assistance in the field of policy and legislation development, but other donors are active as well is specific fields.

The GIZ Open Regional Fund for SEE – Energy Efficiency (ORF-EE) is providing support to the Energy Community (EnC) signatories from the Western Balkans Six in securing complete and systematic energy savings data collection. The support is provided within the scope of the new ORF-EE project "Strengthening cooperation between national and local governments in SEE for sustainable development of EE and climate protection measures (MVP Plus)". The focus is on local implementation of the online based Monitoring and Verification Platform (MVP) for calculation of energy and CO_2 savings from EE measures. In accordance with the EED not only will the final energy savings be covered, but also EE in the transformation chain as well as the final consumer side. In this regard, an upgraded feature tackling primary energy calculation will be developed through the new ORF-EE MVP Plus project. With a simple upgrade of the MVP tool and some guiding points for the users, it will be possible to monitor the implementation of several articles of EED, including article 7. This is especially important for recording of resulting savings of measures implemented under the EED, used for fulfilment of national energy efficiency reporting requirements. The ORF-EE also provide support for capacity building of national staff in ministries, agencies and other institutions responsible for data collection on energy savings, including expansion of MVP's capacities to fit the requirements of the EED. The ORF-EE will support data collection and feeding into the MVP to help reporting and policy making processes, validation of results and data check, analysis of data and evidence-based planning, including knowledge management and sustainability of established structure. North Macedonia has already included the MVP into the draft EE Law. Also, GIZ ORF-EE provides the support for the development of NEEAP and ensures capacity building activities for development of NECP.

EBRD implements Regional Energy Efficiency Programme (REEP) for the Western Balkans and its extension REEP Plus. There are four windows within the REEP Plus:

- Window 1: ESCO support and general policy dialogue;
- Window 2: Intermediated financing. Credit Line Facility to local partner FI with two sub-windows focused on (i) the Residential Sector (EBRD) and (ii) the small and medium sized enterprises (SMEs) and municipal sectors (KfW);
- Window 3: Direct financing. Direct Lending Facility covering private sector investments in sustainable energy including ESCOs, for medium scale RE and EE; and

- Window 4: Direct Lending to Public Sector. Capital expenditure grant co-financing in support of direct municipal loans to the State, cities or municipal companies, under guarantee of the City or the State, to improve EE in public buildings (i.e. schools, hospitals, government buildings

In North Macedonia, support for development of EED and EPBD legislation and regulation is provided through Window 1, while thorough Window 4 the following activities are undergoing[42]:

- On-going pipeline development under Window 4 (REEP Plus);
- Targeted public buildings are in the municipal, educational, administrative, health sectors;
- Scoping studies will be launched to support the structuring and prioritisation EE investments;
- Standardized Energy Audits partly exists; and
- Showcases planned to promote “exemplary role of the public sector” (e.g. energy plus, passive house, building automation systems, deployment of RE etc.).

The aim of this support is to contribute to the fulfilment of obligation to renovate 1% of the total floor areas of heated or cooled buildings owned and occupied by central government bodies each year to meet national minimum energy performance requirements. For the next phase of Technical assistance, it is proposed to establish a comprehensive inventory of all public buildings with validated data and to perform energy audits of all Central Government buildings.

When it comes to the programmes supporting actual investments in energy efficiency, there is only a limited number of implemented and planned initiatives, which are briefly presented as follows:

- Through the Project for awarding World Bank grants for reconstruction and development of rural infrastructure, part of the grant amounting to EUR 1,800,000, originally planned for technical assistance, was re-used and used in the reporting period for placing **photovoltaic panels at 108 public buildings** (municipal buildings, kindergartens, schools, gyms) in 35 rural municipalities. The project is implemented through the project unit of the Project "Support to local/rural infrastructure" within the Ministry of Finance. The project is fully realized by March 31, 2018.
- In January 2018, the Government adopted Program for Promotion of Renewable Energy Sources and Encouraging Energy Efficiency in Households for 2018, with financial support from the state budget in the amount of MKD 50,000,000 (EUR 700,000). As of 2018, 6,538 households have been subsidized, that **purchased and installed solar collectors**, and approximately MKD 96.000.000 were paid from the Budget of the Republic of Macedonia, 2.350 households were subsidized and they were provided with a return on part of the funds they spent for purchased and installed **PVC or aluminium windows**, and approximately MKD 66.000.000 were paid from the Budget of the Republic of Macedonia and 642 households that bought **pellet stoves** in their homes were subsidized and approximately MKD 21.000.000 were paid from the Budget of the Republic of Macedonia.
    - The same Programme was also implemented in 2017 and
    - In the Budget of the Ministry of Economy for 2019, again total of MKD 50,000,000 was approved for the realization of subsidies for purchase and installation of solar collector systems, PVC windows and pellets for households for 2019.
- Meetings were held with representatives from KfW regarding the possibility of granting technical assistance from special fund for energy efficiency of the Ministry of Economic Cooperation and Development of the Federal Republic of Germany through the KfW Bank, which will be designed to assist in assessing the current situation, and thus determining the priority needs for **reconstruction of the student dormitories** in the Republic of Macedonia. This special fund is intended for energy efficiency, but the concept of the German side envisages realization of

[42] Source: CONNECTA project - Building Stock Study for the Public Sector in WB6: Scoping Report, April 2019

investment activities in student dormitories that would cover not only energy efficiency measures but also full reconstruction of the same, in order to improve the conditions for student stay. The financial construction and the scope of the project have not yet been confirmed

The data about projects implemented by the local authorities using their own budget or available financing from commercial or international donors are not available, which may be attributed to the lack of functional system for monitoring of implementation of energy efficiency activities.

Conclusion: The implemented, on-going and planned projects dominantly relate to the establishment of the enabling framework for investments in energy efficiency improvements through technical assistance and capacity building activities. Investments in energy renovation of public buildings and state-level support programmes for their execution are missing, while activities undertaken at local level are not monitored, i.e. the system for monitoring based on the data base of implemented projects is not functional, hence prevents to build the policy measures on the best practices. All documents recognise the establishment of the EE Fund as a crucial trigger of energy efficiency improvement activities in the public sector. In that sense, the establishment of IPA based grant scheme may also be seen as a capacity building programme, i.e. as a pilot programme that would provide the public sector the experience of project preparation and application to the calls under strictly defined rules and procedures, which may in a similar form be applied by the future EE Fund.

5. Identification of main barriers to energy efficiency

Based on the performed analysis of the current situation on energy efficiency in North Macedonia, the following main barriers to stronger implementation of energy efficiency measures in the public sector are identified:

1. Incomplete legislative and policy framework – there is a significant progress made in this field with the development of the draft EE Law and once it is adopted, it will provide a firm basis for boosting energy efficiency activities. However, after the EE Law is adopted, there is a number of secondary legislations that needs to be updated or developed, which will take time and capacities;
2. Lack of capacities at national and local levels – capacities are not only needed to finalise the legislative and policy framework, they are needed within the public sector at both central and local government level for the implementation of the full-scale energy management system (EMC) in public buildings, for development of EE plans and for the preparation and implementation of actual energy efficiency improvement activities. Therefore, the capacities of MoE and Energy Agency need to strengthen, in order to provide continuous support to the local level;
3. Lack of monitoring practices – although software tool for monitoring and verification of energy savings (MVP software) was developed with TA from GIZ ORF EE, it has not been yet put fully into operation, which causes the shortage of relevant data for implemented energy efficiency measures/projects and prevents evidence-based promotional activities to be defined and launched;
4. Lack of prepared energy efficiency projects – energy renovation of buildings is always based on the well-prepared documentation, comprising of energy audit report, energy performance certificate and main project design documentation. Due to non-existence of the obligation to perform energy audits and issue energy performance certificates for public buildings in the previous period, there is now a lack of baseline documents with estimation of energy efficiency potentials;
5. Lack of dedicated financing for energy efficiency in the public sector – due to scare budget possibilities both at national and local level, limited borrowing capacities and lack of commercial banks' programmes for financing public sector energy efficiency projects, it is recognised that there is a need for Energy Efficiency Fund that will be the main financial lever for energy efficiency in the

public sector. The establishment of the Fund is predicted by the draft EE Law and should be established as an independent institution based on the separate law;

6. Underdeveloped market for energy services – there is limited experience with implementation of ESCO model for energy renovation of public buildings in North Macedonia. This model may be used to overcome the lack of own financing within the public sector. However, for boosting the ESCO market for public sector, it is necessary to adopt the EE Law and to develop model contract as well as clearly define all implementing procedures, from public procurement of energy services, through accounting procedures to the monitoring and verification of energy savings;
7. Lack of awareness and information – this is universal and omnipresent barrier to energy efficiency and even more prominent in the public sector due to lack of recognition of wider benefits that energy efficiency in the public sector brings to the whole society.

Conclusion: None of the above barriers can be solved quickly let alone by a single grant programme as predicted by the SOP. Coordinated continuous activities are needed to tackle them all at the same time and to gradually build the capacities that will enable self-sustained energy efficiency to occur in the public sector. However, when piloting grant programme, these barriers need to be taken into account to find the optimal solution that will both enable efficient use of the grants and contribute to the removal of these barriers.

6. Identification and analysis of alternative actions for the use of IPA grants for energy efficiency in the public buildings

To design the grant programme for energy efficiency in the public buildings, the following features of that programme need to be determined:

1. Scope of the grant programme;
2. Final beneficiaries and
3. Eligible activities and measures under the programme.

The identification and analysis of possible options are presented hereafter.

Table 5. Overview possible alternatives for the scope and final beneficiaries of the grant programme

Possible alternative	**Option 1 – central government buildings (CGB)**	**Option 2 – buildings in jurisdictions of local self-governments**	**Option 3 – all public buildings**	**Option 4 – all public buildings and other public service facilities**
Explanation	CGB are buildings owned by the governmental institutions (ministries, agencies) and other organisations that are financed from state budget (state hospitals, universities, student dorms, etc)	These are the buildings owned by local self-governments or institutions financed from the local budget (administration, schools, kindergartens, health centres, sports halls, etc.)	Buildings from Option 1 & Option 2	Buildings from Option 1 & Option 2 + buildings of state or local owned utility companies + facilities for provision of public services, e.g. water supply services
Positive aspects	Focus to very specific buildings, the renovation of which would contribute to the obligation of 1% renovation	Large number of buildings, i.e. potential projects; Higher possibility for prepared projects in more advanced municipalities	Large number of potential candidates; Non-discriminatory perception of the grant scheme (unlike in Option 1)	Even larger number of potential candidates; Widening the scope to services and not only buildings
Negative aspects	Limited number of potential projects; Unknown status of preparedness of the projects; Potentially low absorption of IPA funds	Unknown status of preparedness of the projects; Perception of deepening the inequalities between municipalities	/	Dispersion of funding; Limited energy saving potential with high costs in facilities; State aid rules for companies; Inconsistent with SOP
Assessment	+	++	+++	-

The SOP clearly states that the grant scheme should deal with the public buildings. Moreover, it rests of the draft Programme for energy efficiency in public buildings, which focuses only on 2241 public buildings under the jurisdiction of 8 Ministries and envisages realization of economically justified measures for improving the energy efficiency of 2235 buildings. However, some of those buildings are owned by the local authorities (schools, kindergartens, health centres), hence it is only reasonable to enable that such buildings are also eligible for the grant scheme. Also, according to the situation analysis, there are advanced municipalities that are undertaking energy efficiency activities, hence with the inclusion of municipality owned buildings in the grant scheme, the basis for obtaining good projects is broaden. However, the central government buildings should not be excluded, on contrary - they must be in the scope of the grant scheme as energy renovation of such buildings count as a fulfilment of obligation to renovate 1% of such buildings annually. Therefore, it is recommended to accept the Option 3, i.e. that any building owned by governmental entity, municipality or institution fully financed from the municipal budget are eligible for the grant scheme. Regarding the broadening the scope of the grant scheme as proposed by the Option 4 – it is not recommended. First of all, facilities for the provision of water supply cannot be considered public buildings.

Secondly, the 3rd NEEAP does indeed define a measure for reduction of electricity consumption in such systems through replacement of electric motors and drives and installation of photovoltaic panels. However, it also clearly states that the prerequisite for this measure is renovation of water supply network as losses in the networks are very high. These investments, which are high, cannot be put under the energy efficiency cap and therefore cannot be a part of the grant programme. And finally, it has to be emphasised that this grant programme is a pilot action and the aim of pilots is always to demonstrate the feasibility of actions and to trigger stakeholders in the same sector as well as wider public to take similar actions. Therefore, visibility of actions and potential for their replication is also very important and the best way to achieve this is to demonstrate it on public buildings that are used by the citizens the most (e.g. health and education buildings), which is exactly enabled by the selection of Option 3.

Selection of eligible final beneficiaries of the grant programme is closely connected to the scoping of the programme. Within the recommended Option 3, **the final beneficiaries would be all public bodies at state and local level**. This provides the large basis of potential users and improves the possibilities for obtaining the applications. At this point, possible inclusion of public companies as suggested by option 4 should also be commented. Namely, the public companies are usually financed through their own revenues based on fees for public services. Their financing capacities and decision-making structures differ for public bodies and public perception of wider social benefits coming from the renovation of their building are harder to perceive by the general public and may even have quite reverse effect of dissatisfaction with using grants for renovation of buildings of companies. Also, there might be a need to apply state aid rules in the grant programme in case public companies are also eligible, which will additionally complicate the procedures. Therefore, it is highly recommended to define public bodies of Option 3 as final beneficiaries. Finally, one more issue stated in the SOP has to be commented here. Namely, SOP itself defines final beneficiaries to be:

- MoEPP;
- Ministry of Economy;
- Public entities (local authorities, schools, kindergartens, hospitals, public bodies, etc.);
- NGOs.

It remains unclear why only two ministries are stated as final beneficiaries, whereas these two ministries are actually a body responsible for implementation of the grant programme and a body responsible for energy efficiency, respectively. As per Scoping Report, the building of MoEPP does not need renovation, which eliminates it from potential applying to the call for grants. On the other hand, there is no obstacle for MoE as well as other ministries and state bodies to be applicants to the grants. However, the SOP also defines that NGOs are eligible final beneficiaries and this is not clear at all. Namely, NGOs usually do not own their own buildings and even in case they do, they usually cannot be considered as the public sector. Therefore, it is recommended not to broaden the list of eligible final beneficiaries to NGOs.

Possible eligible activities as defined in the SOP are as follows:

- Preparation of plans to increase energy efficiency;
- Implementation of pilot measures to increase energy efficiency in public buildings;
- Carrying out of energy audits, project designs and project design audits;
- Support for beneficiaries in preparation of applications to participate in the scheme.

At the same time, the SOP defined success indicators in terms of number of implemented energy efficiency improvement measures as well as achieved energy savings. As this grant programme is pilot project in Macedonia, it needs to prove wider benefits of energy efficiency and make them highly visible to the general public and trigger them to action – it is the essence of 'lead-by-example' role of the public sector. In that

respect, **it is recommended to use the grant scheme dominantly for activity 'Implementation of pilot measures to increase energy efficiency in public buildings'**, i.e. for energy renovation of public buildings. The usual process for energy renovation of building is shown in Figure below.

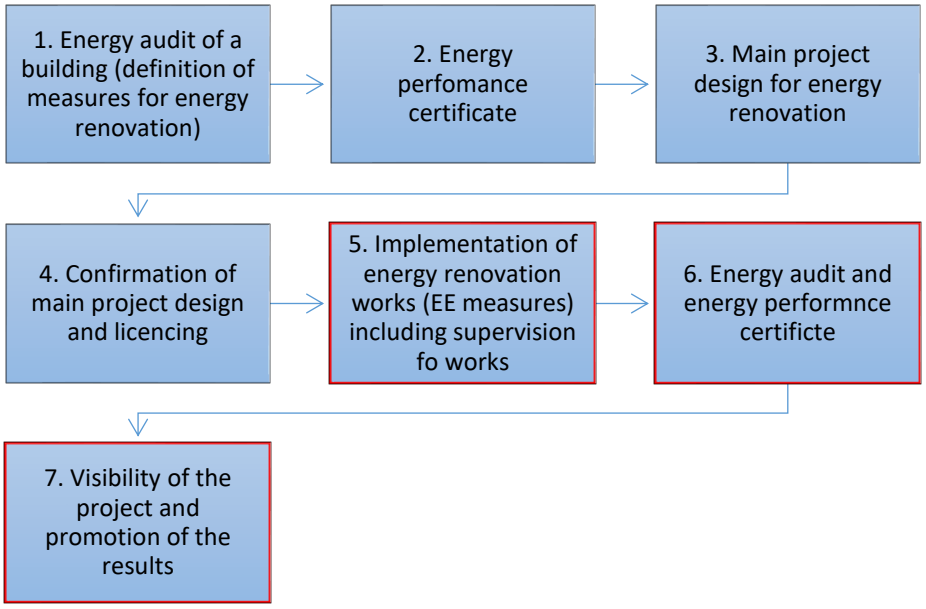


Figure 2. Process for energy renovation of a buildings

The first four activities represent the documentation that needs to be developed prior to application to the call for grants. These documents contain information necessary for evaluation of the technical eligibility of the application. This would mean that all these documents should be financed by public bodies' own budget, which might represent a barrier and negatively reflect of the success of the grant scheme. There are several possibilities to tackle this problem as shown in table below.

Table 6. Overview possible alternatives for eligible activities within the grant programme

Possible alternative	**Option 1 – separate calls for documentation preparation and for energy renovation implementation**	**Option 2 – one call for all activities as shown in Figure 2**	**Option 3 – one call only for design and implementation**	**Option 4 – one call only for energy renovation implementation**
Explanation	Within 1st call eligible activities are 1-4 from Figure 2; Within 2nd call eligible activities are 5-7 from Figure 2	All activities from Figure 2 are eligible	Activities 3-7 from Figure 2 are eligible	Activities 5-7 from Figure 2 are eligible
Positive aspects	Pipeline development through 1st call	Large number of potential applicants;	Lower expenses for preparation of applications	Ready-to-implement projects; Measurable energy savings;

				Lower number of higher-value projects
Negative aspects	High administrative burden for 1st call (large number of small-value projects expected); Less funding for energy renovation implementation	More complex evaluation procedure (no technical data based on which evaluation could be performed; Different applications; Duration of the whole process	Duration of the whole process	Lower number of potential applicants; Higher expenses for applicants
Assessment	+	-	++	+++

The analysis above shows that the least preferable options are those where it is enabled to apply for grant even without energy audit and energy performance certificate. Although these options might be seen as support for pipeline development and capacity building, in reality they would only burden already complex administrative system for the use of IPA funds and slow down the implementation of actual energy renovation projects. Energy audits represent the evaluation of the current energy consumption in the building and provide the answer which energy renovation measures are feasible to implement. This is the minimum of information that is required for the decision making on the energy renovation. Therefore, **a possession of a valid energy audit report (with energy performance certificate) must be set as a minimal prerequisite for application to the grant programme**. It is highly recommended to embrace Option 4 as the most feasible for the grant scheme, i.e. **to prescribe that design documentation as well as licences needed for energy renovation are necessary for the application** to the grant programme. The argument against this option would be that there are no projects prepared and that public sector would not be able to finance design documentation development. However, once the grant scheme is designed, it should be strongly promoted before the call is announced, in order for public bodies to plan in their budgets the financial means for energy auditing and documentation development and to engage (procure) experts for that purpose. Without strong promotional activities prior to announcement of the call, this option might really not work as well as planned. However, a huge downside of the Option 3 is to have two public procurement procedures in the process (one for documentation and one for implementation), which would with high probability significantly prolong the delivery of final results in terms of finalised energy renovation and achieved energy saving. Besides the strong promotion of the grant programme before the launch of the call, **Option 4 might be even more improved if the costs of energy audit, certificate and design documentation could be reimbursed upon the approval of the application**.

Support for beneficiaries in preparation of applications to participate in the grant scheme should also be ensured, i.e. external assistance procured by the applicants should be an eligible cost as well as external support to during the implementation of the projects.

And finally, the provision of the SOP related to the eligibility of activity ‘Preparation of plans to increase energy efficiency’ should be commented. Namely, this activity is not related strictly to the implementation of energy renovation in buildings. There is an obligation of municipalities to prepare their programmes and plans for energy efficiency, which are much broader documents and address all energy efficiency activities planned to be performed in the area if a given municipality. Therefore, it is recommended not to co-finance the preparation of these plans but also not to prescribe them as a obligatory document for application to the grant programme. Non-existence of these documents should be penalised according to legal provisions, rather that through this pilot grant programme.

Appendix 2:

Overview of differences between national Macedonian legislation and WB/EU/EIB/IFC requirements

Issue	WB / IFC Requirements	Provisions in Laws of North Macedonia	Gap comment	Proposed response
ESIA Procedure	The EIA EU regulation applies to a wide range of defined public and private projects and requires for all projects who have significant effects on the environment EIA to be prepared. WB requires an evaluation of the proposed project through an Environmental and Social Impact Assessment (ESIA) that meets WB, EIB and other applicable international guidelines and requirements. IFC Environmental and Social Framework articulates IFC's strategic commitment and to sustainable development and is an integral part of their approach to risk management.	According to Macedonian Law on Environment, potential environmental impacts of the project must be evaluated by an Environmental Impact Assessment (EIA) process and documented in an environmental impact statement (Report).	In Macedonian Law on Environment, requirements of the EU EIA Directive (851337/EEC amended) have been transposed, however there is a gap for social assessment required by World Bank, which is not included in this procedure.	Full ESIA to be prepared, including social aspects and occupational H&S, following the ESF guidelines, for sub-projects for which EIA is required by the national legislation.
Access to environmental information and public participation in environmental decision-making process	EU regulation covers access to environmental information, mechanisms for public participation in respect of the adoption of certain spatial and development plans and programs relating to possible environmental impacts (public participation and access to justice). IFC's ESF sets out standards of the Corporation regarding the scope of information that it makes available to the public either as a routine matter or upon request. IFC believes that transparency and accountability are fundamental to fulfilling its development mandate and to strengthening public trust in IFC and its Clients.	Macedonian Law on Environment stipulates that public participation in the EIA process is obligatory	Macedonian Law on Environment covers access to environmental information and public participation in environmental decision-making process: period required for public disclosure is 30 days according to this Law and 120 days according to Pelosi requirement for High risk projects	To follow national legislation which is in compliance with EU directives, WB and IFC requirements for the implementation of the ESIA procedure for the sub-projects, which are small-scale.

Hydrology (Surface Water) & Hydrogeology (Ground water)	EU directives establish the list of priority substances in the field of water policy, on environmental quality standards in the field of water policy, on pollution caused by certain dangerous substances discharged into the aquatic environment, urban water treatment, nitrates, dangerous substances to water discharges, quality of water intended for human consumption, protection of groundwater against pollution caused by certain dangerous substances. General IFC's EHS Guidelines apply to projects that have either direct or indirect discharge of process waste water, wastewater from utility operations or storm water to the environment. Projects with potential to generate process wastewater, sanitary (domestic) sewage or stormwater should incorporate the necessary precautions to avoid, minimize and control adverse impacts to human health, safety or the environment. The wastewater management including water conservation, wastewater treatment, stormwater management and waste water and water quality monitoring are also required to be met. The WB requires implementation of the pollution prevention and abatement measures, as signatory of European principles for the environment the WB requires compliance with relevant EU environmental standards on water.	The most important aspects of legislation of the Republic of North Macedonia in the field of water management are already established within the horizontal environmental legislation and the Law on Waters (Official Gazette No.87/08). The determination of the water quality status of the main surface watercourses is prescribed by the Law on Waters and Decree on classification of waterways, lakes, accumulations and ground waters (Official Gazette No.18/99, 71/99). As established in the national legislation, there is a list of parameters that need to be analyzed and reported to the Ministry of Environment and Physical Planning.	At this point legislation in the field of water management, which is already or will be transposed, is in compliance with the European Union water legislation. Following degrees are prepared within the Law on Waters: • Degree on criteria for determination of the good ecological status of the surface waters - physical/chemical, biological and morphological conditions; • Degree on criteria for determination of the good ecological status of the ground waters - physical/chemical, biological and morphological conditions; • Degree on classification and categorizatio	To follow national legislation which is in compliance with EU legislation, issues that still need to be covered with outstanding degrees to be covered with relevant EU legislation. This regulation applies in cases of emissions in water bodies and accidental spillovers in waters during construction and operational phase of the project.

			n of waters; and • Rulebooks on the determination of the sensitive water zones and water bodies.	
Climate and Air Quality	EIB Environmental and Social practices Handbook requires assessment regarding project's activities impact on climate change (carbon credit potential, vulnerability and carbon footprint) on which issues EIB is committed to support EU leadership role in combating climate change and recognizes the need for an appropriate response. EIB requires reducing the impact of environment on human health e.g. supply of\ quality potable water and improvement of air quality.	On national level, the air quality regulation is provided by Law on Ambient Air Quality (Official Gazette of the RM, No.67/04. Adopted secondary legislation has adopted transposing relevant EU directives and technical standards, like Decree on limit and target values for levels and type of pollutants in the ambient air, alert and information thresholds; deadlines for achieving limit and target values for specific substances; margins of tolerance for limit value and target value and long-term objectives for specific pollutants; Decree on limit and target values for levels and type of pollutants in the ambient air; Rulebook on criteria, methods and procedures for evaluation of the ambient air quality; Rulebook on inventory and determination of the levels of the pollutant emissions in the ambient air in tones per year.	Requirements of EU directives have been transposed into national legislation.	If Rulebook for air emission values from mobile sources will not be adopted, EU Directive 2004/26/EC on measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery, will be relevant. This regulation applies during construction phase of the sub-projects.
Noise and Vibration	EU directives cover the assessment and amendment of environmental noise and on noise emissions from outdoor equipment EIB Environmental and Social practices Handbook requires that project must comply with EU standards in potential candidate country as is Macedonia; the benchmark is EU standards.	The protection against environmental noise pollution is addressed in the Law of Noise Protection (Official Gazette of the Republic of Macedonia No.79/07). The Law establishes the need to reduce harmful effects that are consequence of exposure to noise in the media and the environment, and to provide a basis for developing measures to reduce noise from its sources.	Relevant EU directives are transposed to national legislation; the basic recommendations of the European Union are met, providing full access to the management of	This regulation applies during construction and operational phase of the project. For example, if noise emissions are above the prescribed values in certain areas, measurements and mitigation measures shall apply.

		The ultimate objective is the protection of the health and wellbeing of the population.	environmental noise. The national noise exposure limit values are in line with the WHO guideline values for community noise in specific environments and with IFC noise level guidelines provided in the General EHS Guidelines: Noise Management	
Waste Management	EU directives regulate the waste management, establish a list of wastes and list of hazardous waste, disposal on waste oil, landfill, labelling the equipment that contains PCBs EU PCBs and waste oils	With regards to policy documents, the Republic of North Macedonia prepared the main strategic documents: • Waste Management Strategy of the Republic of Macedonia (2008 - 2020), adopted by the Government of the Republic of Macedonia, 2008 • National Waste Management Plan (2009 - 2015) of the Republic of Macedonia, Ministry of Environment and Physical Planning, 2008 In Macedonia, the main national legislation regarding the waste management sector is the Law on Waste Management (Official Gazette No.68/04,) and some technical rulebooks and guidelines. The Law on Waste Management significantly contributes to the approximation process in establishing a modem and comprehensive waste management system based on the main EU directives on different waste streams including hazardous waste.	National legislation follows the recommendations of international organizations such as IFC EHS General Guidelines (waste oils, batteries & accumulators, oil leakage, packaging & packaging waste).	National legislation is in full compliance with EU, WB, EIB requirements; on issues which are not covered with relevant laws, EU legislation will be relevant. This regulation applies during construction and operational phase of the project.

Nature Conservation & Biodiversity	EU directives cover conservation of natural habitats and wild fauna and flora, wild birds, protection of species of wild fauna and flora.	The basic law in the area of nature protection is the Law on Nature Protection (Official Gazette of the Republic of Macedonia No. 67/04)	Most of the EU legislation on nature conservation has been transposed into this Law, which also contains obligations from relevant ratified international agreements. Full implementation of the Law is still to be achieved with the adoption of several by-laws. Thus, with regards to the transposition of the two directives that comprise the cornerstones of EU nature protection policy, the Habitats Directive (92/43/EEC) and the Wild Birds Directive (79/409/EEC), there are still many requirements pending of full transposition.	In case it is relevant for specific sub-project, requirements which are still pending to be covered by relevant EU legislation and WB ESS Requirements. This regulation applies during construction phase of the sub-projects.
Community health and safety	WB policy requires identification and requirements evaluation of the risks and potential impacts lo the health and safety of the affected community during the design, construction and operation of the project, establishing preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. These measures are favoring prevention or avoidance of risks and impacts over	Macedonian legislation which covers this issue is the Law on road safety, Law for health protection, Law for transport of hazardous materials, and Law for preventing the spreading of the infectious diseases. Issues related with community health and safety are covered as well under other issues like noise and vibrations, labor and working conditions, air quality and climate and hydrology.	Relevant national legislation covers all issues related with community health and safety	To follow national legislation which is in full compliance with relevant requirements. Community health and safety issues to be covered with sub-projects ESMP as well, since this is not covered with national EIA

	minimization and reduction.			(Elaborate) procedure.
Occupational health and safety	EU Directives that regulate workforce requirements concerning the minimum safety and health requirements for the workplace, cover the minimum health and safety requirements regarding exposure of workers to the risks arising from physical agents, and introduction of measures for encouraging improvements in the safety and health of workers at work. IFC·s policy on social and environmental sustainability requires that employers and supervisors are obliged to implement all reasonable precautions to protect the health and safety of workers. IFC provides guidance and examples of reasonable precautions to implement in managing principal risks to occupational health and safety. Although the focus is placed on the operational phase of project, much of the guidance also applies to construction phase.	Macedonian Law on Occupational Health and Safety and secondary legislation requires employers to take all the necessary measures and maintain acceptable working conditions. Employees are under the obligation to obey and observe all the measures taken to ensure acceptable occupational health and safety. Employers must inform the employees of the occupational risks and preventative measures that must be taken to address these risks. The employer must inform employees of their legal rights and obligations and must provide the employees with the necessary training on occupational health and safety. The Employer is responsible for the provision of a safe working environment and must provide workers all the required personal protective equipment. The employer must regularly check this and all other health and safety equipment and ensure that it is in good functional order. The employer must take necessary measures to prevent occupational illnesses. The employer must prepare a health and safety plan prior to the commencement of construction works.	Macedonian legislation is in line with WB/EU/EIB/IFC requirements	To follow national legislation which is in full compliance with relevant requirements; Occupational health and safety issues to be covered with ESMP as well, since this is not covered with national EIA (Elaborate) procedure.
Land acquisition	WB recognizes those who have no recognizable legal right or claim to the land they are occupying; WB requires that compensation levels should be sufficient to replace the lost land and other assets at full	The Law on expropriation regulates the procedure for expropriation of property for projects that are of public interest and the related rights for real estates (immovable properties).	Macedonian laws do not recognize those who have no recognizable	To meet WB requirements on issues not covered with Macedonian legislation,

	replacement cost in local markets; WB considers crucial that displaced persons and their communities are provided timely and relevant information, consulted on resettlement options, and offered opportunities to participate in planning, implementation and monitoring of resettlement.		legal right or claim to the land they are occupying. Macedonian laws do not include socio-economic assessment in order to determine the real magnitude of impact lo the RAP, while WB does.	Resettlement Policy Framework (RPF) and Resettlement Action Plan (RAP) will be prepared. The ESMP will include these resettlement aspects as well.

Appendix 3:

List of ratified Conventions by Republic of North Macedonia in the Environmental and Social Sectors

HORIZONTAL ENVIRONMENTAL LEGISLATION

- Convention on Environmental Impact Assessment in a Transboundary Context
  http://www.unece.org/env/eia
- Protocol on Strategic Environmental Assessment
  http://www.unece.org/env/eia/sea_protocol.html
- Multilateral Agreement among the Countries of South-Eastern Europe for implementation of the Convention on Environmental Impact Assessment in a Transboundary Context
  http://www.unece.org/env/eia/subregions/se_europe.html
- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters
  http://www.unece.org/environmental-policy/treaties/public-participation/aarhus-convention.html
- Protocol on Pollutant Release and Transfer Registers
  http://www.unece.org/env/pp/prtr.html

NATURE

- Convention on Biological Diversity
  www.cbd.int
- Cartagena Protocol on Biosafety to the Convention on Biological Diversity
  http://bch.cbd.int/protocol
- Convention on Wetlands of International Importance especially as Waterfowl Habitat
  http://www.ramsar.org
- Convention on the Conservation of Migratory Species of Wild Animals
  http://www.cms.int
- Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (Otis tarda)
  http://www.cms.int/en/document/memorandum-understanding-conservation-and-management-middle-european-population-great-2
- Convention on the Conservation of European Wildlife and Natural Habitats
  http://www.coe.int/t/dg4/cultureheritage/nature/bern/default_en.asp
- Convention for the protection of the World Cultural and Natural Heritage
  http://whc.unesco.org/en/conventiontext
- Convention on International Trade in Endangered Species of Wild Fauna and Flora
  www.cites.org
- European Landscape Convention
  http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape/default_en.asp
- Agreement on the Conservation of Bats in Europe
  http://www.eurobats.org
- Amendment of the Agreement on the Conservation of Bats in Europe
  http://www.eurobats.org
- Agreement on the Conservation of African-Eurasian Migratory Waterbirds
  http://www.unep-aewa.org

ATMOSPHERE

- Vienna Convention for the Protection of the Ozone Layer
  http://ozone.unep.org/new_site/en/vienna_convention.php
- Montreal Protocol on Substances that Deplete the Ozone Layer
  http://ozone.unep.org/new_site/en/montreal_protocol.php
- The Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – London
  http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?dec_id_anx_auto=780
- The Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Copenhagen

http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?dec_id_anx_auto=781

- The Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Montreal
  http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?dec_id_anx_auto=782
- The Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer – Beijing
  http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?dec_id_anx_auto=783
- Convention on Long-Range Transboundary Air Pollution
  http://www.unece.org/env/lrtap
- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Long-Term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe (EMEP)
  http://www.unece.org/env/lrtap/emep_h1.html
- Protocol to the 1979 convention on long-range transboundary air pollution on the reduction of sulphur emissions or their transboundary fluxes by at least 30 per cent
  http://www.unece.org/env/lrtap/sulf_h1.html
- Protocol to the 1979 convention on long-range transboundary air pollution concerning the control of emissions of nitrogen oxides or their transboundary fluxes
  https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-1-c&chapter=27&lang=en
- Protocol to the 1979 convention on long-range transboundary air pollution concerning the control of emissions of volatile organic compounds or their transboundary fluxes.
  http://www.unece.org/env/lrtap/vola_h1.html
- Protocol to the 1979 convention on long-range transboundary air pollution on further reduction of sulphur emissions
  http://www.unece.org/env/lrtap/fsulf_h1.html
- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants
  http://www.unece.org/env/lrtap/pops_h1.html
- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Heavy Metals
  http://www.unece.org/env/lrtap/hm_h1.html
- Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to abate acidification, eutrophication and ground-level ozone
  http://www.unece.org/env/lrtap/multi_h1.html

CLIMATE CHANGE

- United Nations Framework Convention on Climate Change
  http://unfccc.int/2860.php
- Kyoto Protocol to the United Nations Framework Convention on Climate Change
  http://unfccc.int/kyoto_protocol/items/2830.php

CHEMICALS

- Stockholm Convention on Persistent Organic Pollutants
  http://chm.pops.int/default.aspx
- Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous Chemicals and Pesticides in international trade
  http://www.pic.int
- Minamata Convention on Mercury
  http://www.mercuryconvention.org

WASTE

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
  http://www.basel.int
- Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and Amendment of the Annex I, Annex VIII and Annex IX
  http://www.basel.int

SOIL

- United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
  http://www.unccd.int

INDUSTRIAL ACCIDENTS

- Convention on the Transboundary Effects of Industrial Accidents
  http://www.unece.org/env/teia.html

Appendix 4:

Screening of Categories of Proposed Types of Subprojects

	Project activity	Risk	Remarks	Proposed EA instrument
1.	Implementation of clean efficient heating stoves or solar powered cookers	Low		Potential impacts are associated mostly with the indoor and outdoor air pollutions, which are short term and site specific and will be mitigated by recommending, based on an initial study, actions for improving the individual stoves performance or new, more energy efficient type of stoves; prepare ESMP Checklist
2.	Installing of street lighting (including solar-powered systems)	Low		The contractors should ensure labor safety issues and provide before starting the civil works special EHS training; prepare ESMP Checklist
3.	Small renewable energy elements (solar powered PVs, or solar powered water heaters/collectors, heat pumps)	Moderate		The contractors should ensure labor safety issues and provide before starting the civil works special EHS training; prepare ESMP Checklist
4.	Energy conservation subprojects (insulated doors, windows in schools, kindergartens and medical centers)	Moderate/Substantial	In the case of hazardous materials will be founded (asbestos containing material) or lead containing paints to be replaced.	For Moderate Risk Category subprojects – the contractors should ensure labor safety issues and provide before starting the civil works special EHS training; prepare ESMP Checklist
5.	Energy efficient water pumps	Moderate		The contractors should ensure labor safety issues and provide before starting the civil works special EHS training; prior EIA Elaborate; prepare ESMP Checklist

Appendix 5:

The Terms of References for the Environmental and Social Experts of the PIU and the new DBNM/EEF

1. Environmental, Health and Safety Expert

An independent Environmental, Health and Safety Expert (EHSE) will be engaged by the PIU on a full time basis for the entire period of the project implementation. The EHSE will be responsible for ensuring proper environmental management of all Project activities, will conduct environmental supervision by carrying out document reviews, audit and site visits and interviews with Contractor, Construction Supervisors, and municipality staff. EHSE would be responsible for reviewing all environmental safeguard documentation (site-specific ESMPs) submitted by sub-project proponents, providing recommendations, advising on the sub-project category advising on the quality of, and clearing the environmental safeguard documentation on behalf of the PIU.

The PIU EHSE will have more specific tasks for every sub-project as follows:

- ❑ Prepare Environmental checklist for sub-project;
- ❑ Advise the Detailed Technical Design Consultant on development of the ESMP and Environmental Mitigation / Monitoring Plans, in accordance with Environmental and Social Management Framework (ESMF) Document;
- ❑ Advise the PAD development Consultant on preparation of the environmental, health and safety assessment, followed by ESMP (Environmental Mitigation / Monitoring Plans), in accordance with Environmental and Social Management Framework (ESMF) Document and Detailed Technical Design;
- ❑ Provide basic training and guidance to the EHSS responsible person of the Contractors and follow implementation of training to their personnel/workers;
- ❑ Control implementation of the Environment Mitigation Plans and Environment Monitoring Plans during implementation of works by the Contractors;
- ❑ Prepare Environmental Monitoring Reports including Project Progress reports for each ongoing sub-project, in accordance with PAD and POM;
- ❑ Participate in regular supervision missions.

2. Social Expert

An independent Social (SE) will be engaged by the PIU on a full time basis for the entire period of the project implementation. The SE will be responsible for ensuring proper implementation and management of relevant Project activities, will conduct social supervision by carrying out document reviews, site visits and interviews with Contractor, Construction Supervisors, community and municipality staff. SE would be responsible for reviewing all social safeguard documentation (site-specific ESMPs) submitted by sub-project proponents, providing recommendations, advising on the quality of, and clearing the social safeguard documentation on behalf of the PIU.

The PIU SE will have more specific tasks for every sub-project as follows:

- ❑ Prepare social information of the Environmental & Social checklist for sub-project;
- ❑ Advise the Detailed Technical Design Consultant on development of the ESMP and social aspects, in accordance with Environmental and Social Management Framework (ESMF) Document;
- ❑ Advise the PAD development Consultant on preparation of the social assessment, followed by ESMP, in accordance with Environmental and Social Management Framework (ESMF) Document and findings from the project participants and community interests;
- ❑ Provide basic training and guidance to the EHSS responsible person of the Contractors and follow implementation of training to their personnel/workers;
- ❑ Control implementation of the social aspects of the ESMPs during implementation of works by the Contractors;
- ❑ Prepare Social Monitoring Reports including Project Progress reports for each ongoing sub-project, in accordance with PAD and POM;
- ❑ Participate in regular supervision missions.

Terms of Reference of the Environmental, Social and Occupational Health&Safety Standards specialists within DBNM/EEF

1. Environmental Specialist

Background

The Government of Republic of North Macedonia is establishing Energy Efficiency Fund (EEF) within the Development Bank of North Macedonia (DBNM), with a technical support of the Public Sector Energy Efficiency Project (PSEEP) financed with a Loan Agreement from the World Bank. In addition, the PSEEP Project provides initial capital of €5 million to be pledged in the EEF aiming to start-up the revolving role of the Fund.

The main long-term and strategic objectives of the EE Fund in North Macedonia are to:

a) establish sustainable financing facility for EE and RE projects with broader energy and economic benefits;

b) invest in project related EE advanced technologies, therefore enabling technology and know-how transfer;

c) maintain sustainable and most efficient consumption of energy resources across all economy sectors; and

d) foster a culture of sustainable energy system design and implementation as a key factor for a high quality and sustainable way of living.

The establishment of the EE Fund will need to serve the purpose of supporting the national EE policy measures on a sustainable basis and across all the sectors specifically addressed in the Energy Development Strategy (EDS). The mission of the EE Fund and corresponding short-term and long-term Strategic and Financing Plan will need to fully reflect and accommodate the EE policy measures and sectors, implementing mechanisms concluded in the EDS, and other national energy and climate strategic documents.

In the mid to long-term (5 to 7 years), the EE Fund should represent the best choice for financing EE and clean energy projects for any project or proponent category. This ambitious vision will be accomplished as a long-term evolution of the EE Fund via several growth cycles from a smaller, yet effective structure with an initial start-up funding of €5 million from PSEEP, to a sustainable, self-supported and learning organization with a substantial financing facility in a range of several hundreds of million EUR.

General objectives of the assignment for the Environmental Specialist

The ***Environmental Safeguards Specialist*** is envisaged to assist the EE Fund in preparation and reviewing of the required Environmental and Social Management Plans for the projects that might be in the following areas: street lighting, retrofitting of buildings with EE measures (e.g. windows replacement, thermal insulation of the building envelops, etc.), installation of thermal heating pumps //improving the heating system and use of renewables for covering the building consumption. The assignment will cover the preparation, assessment and implementation phase of each project.

Scope of Services

The EE Fund will be staffed with professionals who have experience in both the technical and economic aspects of EE and RE projects.

The following specific tasks will be carried out by the ***Environmental Safeguard Specialist:***

- prepare Environmental and Social checklist for projects in accordance with the Environmental and Social Management Framework (ESMF) of the Operations Manual;
- advise the EEF Team, External Consultants and Project Applicants (future beneficiaries) on the findings from the ES Screenings of proposed projects and implementation of Environmental and Social Mitigation/Monitoring Plans as integral part of the Detailed Designs, in accordance with ESMF;
- monitor the implementation of the mitigation measures to the adverse environmental impacts as proposed in the Environment and Social Mitigation Plans during implementation of works by the Contractors;
- prepare Environmental Monitoring Reports including Project Progress reports for each ongoing project;
- participate in regular supervision missions.

Qualifications

- University Degree in Engineering sciences, Technology, Environmental Sciences, Environmental Engineering, Natural sciences, Natural Resources Management or related field;
- Good knowledge of WB's Environmental and Social Framework / safeguard policies that should be proven by professional work on international financing (construction, infrastructure, energy efficiency, etc.) projects;
- Minimum 7 years overall professional experience in preparing and monitoring of the implementation of environmental/mitigation plans, multidisciplinary environmental/social assessments, experience in ESIAs as per the international funding institutions;
- Previous experience in implementation of Energy Efficiency Projects;
- Experience in similar assignments in the Republic of North Macedonia;
- Excellent communication and conflict resolution skills;
- Very good Computer skills (Word, Excel, Access);
- Fluency in Macedonian and excellent knowledge of English language;
- Driving license: B category.

Working conditions

The ***Environmental Safeguards Specialist*** will be stationed in the EE Fund premises in Skopje, but should be ready to hold numerous meetings on the field and work under pressure. Payment shall be made on monthly basis, in accordance with the Employment Contract provisions.

Duration

The Employment Contract shall be concluded for three (3) years, but not later than September 2027 and will be subject for possible extension.

2. Social Specialist

Background

The Government of Republic of North Macedonia is establishing Energy Efficiency Fund (EEF) within the Development Bank of North Macedonia (DBNM), with a technical support of the Public Sector Energy Efficiency Project (PSEEP) financed with a Loan Agreement from the World Bank. In addition, the PSEEP Project provides initial capital of €5 million to be pledged in the EEF aiming to start-up the revolving role of the Fund.

The main long-term and strategic objectives of the EE Fund in North Macedonia are to:

1. establish sustainable financing facility for EE and RE projects with broader energy and economic benefits;
2. invest in project related EE advanced technologies, therefore enabling technology and know-how transfer;
3. maintain sustainable and most efficient consumption of energy resources across all economy sectors; and
4. foster a culture of sustainable energy system design and implementation as a key factor for a high quality and sustainable way of living.

The establishment of the EE Fund will need to serve the purpose of supporting the national EE policy measures on a sustainable basis and across all the sectors specifically addressed in the Energy Development Strategy (EDS). The mission of the EE Fund and corresponding short-term and long-term Strategic and Financing Plan will need to fully reflect and accommodate the EE policy measures and sectors, implementing mechanisms concluded in the EDS, and other national energy and climate strategic documents.

In the mid to long-term (5 to 7 years), the EE Fund should represent the best choice for financing EE and clean energy projects for any project or proponent category. This ambitious vision will be accomplished as a long-term evolution of the EE Fund via several growth cycles from a smaller, yet effective structure with an initial start-up funding of €5 million from PSEEP, to a sustainable, self-supported and learning organization with a substantial financing facility in a range of several hundreds of million EUR.

General objectives of the assignment

The ***Social Safeguards Specialist*** is envisaged to assist the EE Fund in preparation and reviewing of the social part of the required Environmental and Social Management Plans for the projects that might be in the following areas: street lighting, retrofitting of buildings with EE measures (e.g. windows replacement, thermal insulation of the building envelop, etc.), installation of thermal heating pumps /improving the heating system and use of renewables for covering the building consumption. The assignment will cover the preparation, assessment and implementation phase of each project.

Scope of Services

The EE Fund will be staffed with professionals who have experience in both the technical and economic aspects of EE and RE projects.

The following specific tasks will be carried out by the ***Social Safeguard Specialist:***

- prepare the social part of the Environmental and Social checklist for projects in accordance with the Environmental and Social Management Framework (ESMF) of the Operations Manual;
- advise the EEF Team, External Consultants and Project Applicants (future beneficiaries) on the findings from the ES Screenings of proposed projects and implementation of the Social Mitigation/Monitoring Plans as integral part of the Detailed Designs, in accordance with ESMF;
- monitor the implementation of the social part of the Environment and Social Mitigation Plans during implementation of works by the Contractors;
- prepare the social part of the Environmental and Social Monitoring Reports including Project Progress reports for each ongoing project;
- participate in regular supervision missions.

Qualifications

- University Degree in Civil engineering, Technology, Social sciences, Economics, Business Administration, Public Administration or related field; Masters degree will be considered an asset
- Good knowledge of WB's Environmental and Social Framework / safeguard policies;
- Minimum 5 years professional experience in preparing and monitoring of the implementation of social plans, multidisciplinary social assessments;
- Previous experience in implementation of Energy Efficiency Projects;
- Experience in similar assignments in the Republic of North Macedonia;
- Excellent communication and conflict resolution skills;
- Very good Computer skills (Word, Excel, Access);
- Fluency in Macedonian and excellent knowledge of English language;
- Driving license: B category.

Working conditions

The ***Social Safeguards Specialist*** will be stationed in the EE Fund premises in Skopje, but should be ready to hold numerous meetings on the field and work under pressure. Payment shall be made on monthly basis, in accordance with the Contract provisions.

Duration

The Contract shall be concluded for three (3) years, but later than September 2027 and will be subject for possible extension.

3. Occupational Health & Safety (OHS) Specialist

Background

The Government of Republic of North Macedonia is establishing Energy Efficiency Fund (EEF) within the Development Bank of North Macedonia (DBNM), with a technical support of the Public Sector Energy Efficiency Project (PSEEP) financed with a Loan Agreement from the World Bank. In addition, the PSEEP Project provides initial capital of €5 million to be pledged in the EEF aiming to start-up the revolving role of the Fund.

The main long-term and strategic objectives of the EE Fund in North Macedonia are to:

- establish sustainable financing facility for EE and RE projects with broader energy and economic benefits;
- invest in project related EE advanced technologies, therefore enabling technology and know-how transfer;

- maintain sustainable and most efficient consumption of energy resources across all economy sectors; and
- foster a culture of sustainable energy system design and implementation as a key factor for a high quality and sustainable way of living.

The establishment of the EE Fund will need to serve the purpose of supporting the national EE policy measures on a sustainable basis and across all the sectors specifically addressed in the Energy Development Strategy (EDS). The mission of the EE Fund and corresponding short-term and long-term Strategic and Financing Plan will need to fully reflect and accommodate the EE policy measures and sectors, implementing mechanisms concluded in the EDS, and other national energy and climate strategic documents.

In the mid to long-term (5 to 7 years), the EE Fund should represent the best choice for financing EE and clean energy projects for any project or proponent category. This ambitious vision will be accomplished as a long-term evolution of the EE Fund via several growth cycles from a smaller, yet effective structure with an initial start-up funding of €5 million from PSEEP, to a sustainable, self-supported and learning organization with a substantial financing facility in a range of several hundreds of million EUR.

General objectives of the assignment

The ***Occupational Health&Safety Specialist*** is envisaged to assist the EE Fund in preparation and reviewing of the OHS and Community safety plans and measures as integral part of the required Environmental and Social Management Plans for the sub-projects that might be in the following areas: street lighting, retrofitting of buildings with EE measures (e.g. windows replacement, thermal insulation of the building envelop, etc.), installation of thermal heating pumps //improving the heating system and use of renewables for covering the building consumption. The assignment will cover the preparation, assessment and implementation phase of each sub-project.

Scope of Services

The EE Fund will be staffed with professionals who have experience in both the technical and economic aspects of EE and RE projects.

The following specific tasks will be carried out by the ***OHS Specialist:***

- Supporting and enhancing the WBG Occupational Health and Safety (OH&S) Management System within the EEF initial capital implementation
- Conducting risk assessments and workplace investigations to identify and mitigate health and safety risks for the EEF staff, but also for the sub-projects implementation and community safety risks;
- Designing and delivering comprehensive OH&S training programs to the EEF staff and all contractors;
- Providing actionable recommendations to improve OH&S mitigation measures and fostering a culture of safety and accountability

Qualifications

- University Degree for Occupational Safety, or other University degree backed up with Certificate for passed examination for OHS by the Ministry of Labor and Social Affairs of Republic of North Macedonia;
- Good knowledge of WB's OHS standards and policies;
- Minimum 5 years overall professional experience in preparing and monitoring of the implementation of OHS and Community safety plans;
- Previous experience in implementation of OHS on Energy Efficiency Projects is an asset;
- Experience in similar assignments in the Republic of North Macedonia;
- Excellent communication and conflict resolution skills;
- Very good Computer skills (Word, Excel, Access);
- Fluency in Macedonian and excellent knowledge of English language;
- Driving license: B category.

Working conditions

The ***OHS Specialist*** will be stationed in the EE Fund premises in Skopje, but should be ready to hold numerous meetings on the field and work under pressure. Payment shall be made on monthly basis, in accordance with the Contract provisions.

Duration

The Contract shall be concluded for two and half (2.5) years, but later than September 2027 and will be subject for possible extension.

Appendix 6:

Content of ESMP for sub-projects

1. General Guidelines for use of ESMP checklist

For low-risk topologies, such as school, municipal, kindergarden and hospital rehabilitation activities, the PIU team developed a checklist-type format aiming to provide “example good practices” and designed to be user friendly and compatible with safeguard requirements.

The ESMP checklist-type format attempts to cover typical core mitigation approaches to civil works contracts with small, localized impacts. It is accepted that this format provides the key elements of an Environmental and Social Management Plan (ESMP) or Environmental and Social Management Framework (ESMF) to meet World Bank Environmental and Social Assessment requirements under ESS1. The intention of this checklist is that it would be applicable as guidelines for the small works contractors and constitute an integral part of bidding documents for contractors carrying out small civil works under Bank-financed projects.

The checklist has four sections:

Part 1 includes a descriptive part that characterizes the sub-project and specifies in terms the institutional and legislative aspects, the technical project content, the potential need for capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be supplemented when needed.

Part 2 includes an environmental and social screening checklist, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking “yes”, a reference is made to the appropriate section in the following table, which contains clearly formulated management and mitigation measures.

Part 3 represents the monitoring plan for activities during project construction and implementation. It retains the same format required for ESMPs proposed under normal Bank requirements for Substantial risk projects. The aim of this checklist is that Section 2 and Section 3 are included into the bidding documents for contractors, priced during the bidding process and diligent implementation supervised during works execution.

2. Contents of the ESMP Checklist

PART 1: GENERAL SUB- PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE			
Country			
Sub-project title			
Scope of sub-project and activity			
Institutional arrangements (Name and contacts)	WB (Project Team Leader)	Project Management	Local Counterpart and/or Recipient

Implementation arrangements (Name and contacts)	Safeguard Supervision	Local Counterpart Supervision	Local Inspectorate Supervision	Contactor
SITE DESCRIPTION				
Name of site				
Describe site location			Attachment 1: Site Map [ ]Y [ ] N	
Who owns the land?				
Description of geographic, physical, biological, geological, hydrographic and socio-economic context				
Locations and distance for material sourcing, especially aggregates, water, stones?				
LEGISLATION				
Identify national & local legislation & permits that apply to project activity				
PUBLIC CONSULTATION				
Identify when / where the public consultation process took place				
INSTITUTIONAL CAPACITY BUILDING				
Will there be any capacity building?	[ ] N or [ ]Y if Yes, Attachment 2 includes the capacity building program			

PART 2: E&S INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
	Activity	**Status**	**Triggered Actions**
Will the site activity include/involve any of the following?	A. Building rehabilitation	[**X**] Yes [ ] No	See Section **A** below
	B. New construction	[ ] Yes [**X**] No	See Section **A** below
	C. Individual wastewater treatment system	[ ] Yes [**X**] No	See Section **B** below
	D. Historic building(s) and districts	[ ] Yes [**X**] No	See Section **C** below
	E.		
	F. Hazardous or toxic materials[43]	[**X**] Yes [ ] No	See Section **E** below
	G. Impacts on forests and/or protected areas	[ ] Yes [**X**] No	See Section **F** below
	H. Handling / management of medical waste	[ ] Yes [**X**] No	See Section **G** below
	I. Traffic and Pedestrian Safety	[**X**] Yes [ ] No	See Section **H** below

[43] Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART 3. MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	(a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	(a) During interior demolition debris-chutes shall be used above the first floor (b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (side walks, roads) shall be kept free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) There will be no excessive idling of construction vehicles at sites
	Noise	(a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	(a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
B. Individual wastewater treatment system	Water Quality	(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.
C. Historic building(s)	Cultural Heritage	(a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation.

		(b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.
D. Acquisition of land	Land Acquisition Plan/Framework	(a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank's Task Team Leader shall be immediately consulted. (b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented
E. Toxic Materials	Asbestos management	(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
F. Affected forests, wetlands and/or protected areas	Protection	(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
G. Disposal of medical waste	Infrastructure for medical waste management	(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal; and ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
H Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(b) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards

		▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART 4. MONITORING PLAN

Phase	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Cost (if not included in project budget)	Who (Is responsible for monitoring?)
During activity **preparation**	site access traffic management availability of waste disposal facilities	at the site at the site in site vicinity	check if design and project planning foresee diligent procedures	before launch of construction	safety of general public, timely detection of waste disposal bottlenecks	marginal, within budget	Contractor, Engineer
During activity **implementation**	hazardous waste inventory (asbestos) construction material quality control (eg. paints / solvents)	on site Contractor's store / building yard	visual / analytical if in doubt visual / research in toxic materials databases	before start of rehabilitation works before approval to use materials	public and workplace health and safety	marginal, within budget; (prepare special account for analyses at PMU?)	Contractor, Engineer
During activity **supervision**	dust generation noise emissions wastewater volumes & quality waste types and volumes	on site and in immediate neighborhood, close to potential impacted residents	visual consultation of locals visual, analytical if suspicious count of waste transports off site	daily daily daily / continuous every batch	avoidance of public nuisance avoidance of negative impacts on ground/ surface waters ensuring proper waste management and disposal	marginal, within budget	Contractor, Engineer

1. Example Environmental and Social Mitigation Plan for sub-projects that propose rehabilitation of public buildings with EE measures

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Project activity: Preparatory activities for reconstruction of public building for energy efficiency improvement			
a) OH&S issues Possible adverse safety and health impacts to the workers, local population and employees due to: - Possible injury to local population and employees due to ongoing works; - Non - compliance with national occupational health and safety at work; - Non - compliance with local community safety regulations - Non-compliance with azbestos occupational health and safety at work	Local Short term Major with high significance at public building	➢ Provision of the information via municipality web site about the reconstruction activities – duration of work; instructions for citizens, employees and pupils. • Installation of Information board with general information about the projects, Contractor and Supervisor at the construction site; • Placing leaflets at nearby public areas to inform citizens about the works • Ensuring opportunity for complaint-box within municipality. ➢ Preparation, approval and implementation of the **OH&S Elaborate** for the construction site, which will include a separate **Plan for Demolition of Asbestos containing Materials**; It must be reviewed and approved by the site Supervisor. Application of good practice for marking out the reconstruction sites including: • It must be reviewed and approved by the site Supervisor; • Adequate warning tapes and information signs have to be placed around the project location; • Protection of local population and employees of the school building - fence the area and prevent access of non-authorized personnel to the project site; • Project site must be lighted during the nights; • The surrounding area should be kept clean, without waste disposed there. The waste need to be collected and removed from the yard; • The demolition related activities should be conducted outside of working hours of the school building (it is recommended this should be performed during the summer period – school summer vacation); • The old windows and doors should be temporary put on safe place which is designed to prevent access of unauthorized persons; • Separation of the work areas from demolition and occupied areas of the building as much as possible using physical barriers; • The cleaning schedule of the building should be increased to address the extra dust and dirt created by the demolition work; • Following safety guidelines for the storage, transport, and distribution of hazardous materials aiming to minimize the potential for misuse, spills, and accidental human exposure (separate section on hazardous waste is developed under bullet **"b"**); • The eventually broken glass should be cleaned immediately; • Regular maintenance of vehicles to minimize potentially serious accidents caused by equipment malfunction or premature failure.	• Contractor • Supervisor • Municipal staff (communal Inspector/ environmental Inspector)
Project activity: Reconstruction activities of public building for energy efficiency improvement			

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
b) OH&S issues Possible adverse health impacts to the workers, facility users, children and general public as a result of emissions of asbestos fibers and dust during the removal of asbestos sheets, their transport and final disposal	Local Short term Major with high significance at public building	• Post signs indicating "ASBESTOS REMOVAL – NO ADMITTANCE" on the workplace in the school yard; • Restrict access to the removal area only to those people directly involved in the asbestos removal and site supervisor and municipal inspectors; • The roof should be replaced during non-working days to decrease the health risks to students; • Install barriers tape and warning signs in proximity to the school; • For the workers - the personal protective equipment must be provided to all workers (full body covering including the head, water proof foot and hand protection and eye protection, dust mask with special HEPA filter; • Maintain a good level of personal hygiene (facility for washing hands and face should be made available and need to be used by each employee when leaving the work area, all protective clothing and equipment shall wear in the work area, footwear is to retain in the work area until work is completed); • Health protection-first aid kits and medical service on sites need to be provided during the works; • No smoking, drinking, eating or chewing is allowed inside the working area; • Workers dealing with removal of asbestos containing roof sheets must be trained for demolition works with such construction hazard; Supervisor should approve list of workers possessing certificates according the *Rulebook on the minimum occupational safety and health requirements for employees for risks related to exposure to asbestos at work (Official Gazette of RM No. 50/09*) • The surrounding area should be kept clean, without ACM waste disposed there. The ACM waste (roof sheets) need to be collected, packaged and immediately removed from the school yard; • Strong recommendation is If possible, to begin and end renovation/replacement activities during the summer months or while staff and pupils are not in schools.	• Contractor • Supervisor • Municipal staff (communal Inspector/ environmental Inspector / Sanitary and Health Inspector)
c) Waste management Possible adverse environmental impact and health effects could occur due to inappropriate waste management with various waste streams (the improper waste management could generate direct and indirect pollution on waters, soil and will impact the air quality)	Local Short term/certain to happen Major with high significance at public building	• Preparation and implementation of the **Waste Management Plan**; It must be reviewed and approved by the site Supervisor; • Identify the hazardous and non-hazardous waste and separate them at the project location: The majority of waste would be classified under the Waste Chapter 17 "Construction and demolition wastes" with various waste codes (to be indicated as per the BoQ from the technical design); • Waste management for non-hazard waste in accordance with national waste legislation for waste (separation at the spot, collection and temporary storage, re-use if it is possible, transport to the final destination – Landfill for land, rubble and other waste construction material in the Municipality) • The contract with the company for waste collection and transportation should be signed for collection and transport of different waste streams; • The materials should be covered during the transportation to avoid waste dispersion; • Burning of demolition waste is prohibited;	• Contractor • Supervisor • PCE of the municipality / landfill site • Municipal staff (communal Inspector/ environmental Inspector)
d) ACM Waste management	Local	• The staff in charge for removal of ACM roof sheets should be trained on proper safety dismantling of the roof sheets minimizing the health risks; • The identification of the asbestos containing material – waste as a hazardous waste should be done;	• Contractor

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Possible adverse environmental impact and health effects could occur due to inappropriate handling with waste containing asbestos	Short term Major with high significance at public building	• The ACM waste need to be classified as a hazardous waste under the "RULES FOR MANNER OF WASTE OF ASBESTOS AND WASTE WITH PRODUCTS THAT CONTAIN ASBESTOS" (Official Gazette of RM No. 89/2006) with the waste code 17 06 05* – Construction material containing asbestos in accordance with List of waste (Official Gazette of RM NO. 100/2005); • The demolition and removal of the ACM roof sheets should be done very quickly by trained personnel; • The ACM waste should be placed in polyethylene bags or other containers of at least 0.15 mm thickness; • Printed asbestos warning labels must appear on the outer surface of the container/bag; • The break of the ACM roof sheets into smaller pieces to fit into container/bag is forbidden; • The roof sheets should be handled very carefully and have to be removed sheet by sheet in one piece, not to be broken because during the break the asbestos fibers and dust are deliberated appear, which pose health risks; • It is better to avoid the temporary storage of roof sheets within the school yard, but if necessary, should be done for one/two days, the precautionary measures should be applied – the ACM waste should be stored in a designated area with posted signage and/or caution tape to eliminate any damage; • The temporary stored bags/containers containing asbestos waste need to be labelled "Asbestos waste"; • The contract with the company for Asbestos containing waste collection and transportation should be signed for collection and transport of asbestos waste/roof sheets; • After the removal of the asbestos waste all surfaces in the school yard need to be dusted with a damp cloth or vacuumed with a HEPA filter; • The workers who perform cleaning should wear protective clothes as those who perform dismantling of the roof sheets; • The contract with the Public Communal Enterprise Utility "Landfill Drisla" should be signed for final disposal of asbestos containing roof sheets; • On the landfill the asbestos containing waste should be disposed on the special area for disposal of that type of waste.	• Supervisor • Municipal staff (communal Inspector/ environmental Inspector)
e) Noise The present of workers on the site and work of the transportation vehicle will increase the noise and vibration level	Local Short term Medium significance at public building	• Use of appropriate and technically functional equipment and mechanization, possessing Statement of Compliance for noise generation in open space below 102 dB (A); The vehicles that are excessively noisy shall not be operated until corrective measures have been taken. • The level of noise should not exceed more than national limited values for noise level - the project site are located in area with I/II/III/IV degree of noise protection, which means that noise level should not exceed more than 55dB *(to be accordingly proposed)* during the night and 60dB *(to be accordingly proposed)* during the evening and day; • The construction work should be performing from 7.00 to 19.00 –construction activities are not allowed during the nights, • Workers must use protective pads against incised noise level	• Contractor • Supervisor •Communal Inspector /Environmental Inspector
f) Air quality The decommissioning and reconstruction activities will initiate emissions from the mobile sources	Local Short term	• Usage of protective masks for the workers; • Vehicles and construction machinery will be required to be properly maintained and to comply with relevant emission standards; • Conduction of regular maintenance of the vehicles and construction machinery in order to reduce the leakages of motor oils, emissions and dispersion of pollution;	•Contractor •Supervisor •Communal Inspector/

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
(vehicles and construction machinery and dismantling activities)	Moderate with Low significance at public building	• Vehicle loads have to be covered to prevent emission of dust; • Project site, transportation routes and materials handling sites should be water-sprayed on dry and windy days, for minimization of the negative effect from the dust emission; • Construction materials should be stored in appropriate covered places to minimize dust; • Open burning of debris is not be permitted	Environmental Inspector
e) Water quality Generated waste on the reconstruction site may affect river in the Municipality	Local Short term Major with high significance near the riverbed	• Minimize storage or disposal of generated waste on the site; • Temporary or final waste disposal near/in water stream is strictly forbidden in order to prevent possible adverse impact on surface waters	• Contractor • Supervisor • Environmental Inspector
Operational phase of the Project • **During the operational phase of this project, the waste streams are expected to be generated, such as communal and biodegradable waste (generated from the school building and the small kitchen). In order to provide proper waste management, the waste collection should be carried out by the PCE "XYZ" from the municipality on a regular basis;** • **Regular preventive and maintenance measures for the building proper operation (regular checks and maintenance of the roof, windows, doors, any leackeges, etc.)** • **Keeping records of the Main Design Project and relevant project documentation for easy maintenance and replacements of any parts of the building.**			

2. Example of Environmental and Social Mitigation Plan for sub-projects that propose installation of Energy Saving Heating Systems in public buildings

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Project activity: Preparatory activities for installation of renewable energy/heating system in public building			
a) OH&S issues Possible adverse safety and health impacts to the workers, school officials, students and community due to: • Location of schools in the vicinity of family houses; • Possible injury to citizens and building users due to ongoing works; • Non - compliance with national occupational health and safety at work; • Non - compliance with local community safety regulations.	Local Short term Major with high significance at public building	• Provision of the information via municipality web site (http://www.komunaelikoves.gov.mk/) about the construction activities – start and finish of work for each day and location of activities and duration of work; ✓ Information leaflets shall be also placed on several visible places along the project site containing telephone number for communication with public; Within the municipal administration, a Complaint Dropbox shall be available and adequate response shall be performed on regular basis. • Preparation and implementation of **OH&S and community safety Plan:** ✓ Adequate warning tapes and information signs around the school need to be provided and maintained during the reconstruction works; ✓ Information that the installation works will be carried out should be posted on the entrance doors of the schools buildings and should be transferred to the students; ✓ For the workers - the legally prescribed health and safety measures should be applied, like: a) use of proper protective clothing and equipment by employees, especially masks against dust and small wooden parts and fibres, and safety harnesses for work at heights; b) Maintain a good level of personal hygiene; c) Health protection-fist aid kits and medical service on sites need to be provided during the works; ✓ The surrounding area (school and school yard, halls and corridors) should be kept clean, without waste disposed there. The waste needs to be collected and immediately removed from the yard and corridors; ✓ If possible begin and end installation activities during the summer months or while staff and students are not in schools; ✓ Organize 24-hour guard watch of the sites; ✓ The sub-project sites should be lighted during the nights; ✓ The work during the breaks between class lessons should be prohibited; ✓ The **Dynamic Plan for re-schedule of the occupied schools** rooms should be prepared in line with reconstruction/novation work progress; ✓ Separation of the work areas from occupied areas of the school buildings as much as possible using physical barriers; ✓ Limit the foot traffic between work areas and occupied areas of the building; ✓ Limit the path of handling/entering the heating equipment elements, etc. and taking the old ones out; ✓ The cleaning schedule of the buildings should be increased to address the extra dust and dirt created by the installation works.	• Contractor • Supervisor • Municipal staff (Communal Inspector/Environmental Inspector) • Building officials
Project activity: Installation of the renewable energy/heating system in public building			

b) ***Waste management*** The possible adverse environmental impact and health effects could occur due to improper waste management that could cause direct and indirect pollution on waters, soil and will impact the air quality	Local Short term Major with high significance at public building	• Preparation, approval and implementation of the **Waste Management Plan** including type of waste streams expected for these type of activities (according the National List of Waste types), separation of waste on spot, responsible person/s for implementation of WMP plan, taking care about the waste collection, transportation and temporary and final waste disposal, define the sites for temporary disposal of waste before final disposal; – for concrete residuals and soil, agreements with authorized waste collection companies, check lists with keeping records on generated waste, records on transported waste etc.; • Final disposal of the demolition waste at the landfill near Nikushtak at a distance of 12km. • Small quantities of glue, paint, packaging waste from paints and glue, aluminum profiles, screws and other construction material could be found after the finalization of the project and managed in accordance with national HW legislation (collection of hazardous materials, label as hazardous waste and give to the authorized company); • The contract with the company for waste collection and transportation should be signed; • The materials should be covered during the transportation to avoid waste dispersion; • Burning of demolition waste is prohibited; • The old stoves on wood and other school dismantled items should be stored temporary in separate room in the school or if it is not possible outside in the yards covered and labeled "not to open/ uncover" until final disposal happens. The stoves in working condition will be distributed to the other schools in the municipality, and the broken will be sold as a scrap metal. This procedure will be carried immediately after dismantling process.	• Contractor –Bidder • Supervisor • Municipal staff (Communal Inspector/Environmental Inspector) • CSE • Building officials
***c*) Water quality** Possible environmental impact on the nearby rivers could occur due to ground contamination from the spillage of materials such as vehicle fuel, motor oils and lubricants	Local Short term Medium significance Low probability	• Possible hazardous waste (motor oils, vehicle fuels, lubricants) should be collected separately and authorized company should be sub-contracted to transport and finally dispose the hazardous waste; • Dismantling of the old equipment (fuel reservoirs, boiler) should be done by trained persons in order to avoid the potential effects of oil spills on soil, which would contaminate the underground water; • The temporary/final disposal of the waste along the water bed is prohibited.	• Contractor • Supervisor • Municipal staff (Communal Inspector/Environmental Inspector)
d) Noise The reconstruction activities and traffic will cause noise and vibration due to the machinery and vehicles used for transport of the construction materials, transport of workers, and transport of waste produced in decommissioning and constructive phase	Local Short term Medium significance Certain to happen	• The equipment should be fitted with appropriate noise devices that will reduce sound level; • The level of noise should not exceed national limit values for noise level - the sub project sites are located in area with second degree of noise protection, which means that should not exceed 45dB during the night and 55dB during the evening and day (Check the noise specifications for the site-specific area); • The noise exposure values should not exceed 35dB inside of the bulding rooms (Check the noise specifications) during working/sleeping hours; • The construction work should not be permitted during the nights, the operations on sites shall be restricted to the hours 7.00 -19.00; • The vehicles that are excessively noisy shall not be operated until corrective measures have been taken.	• Contractor • Supervisor • Communal Inspector/Environmental Inspector

Operational phase of the Project

- No environmental risks are expected
- Positive impact (energy efficiency, energy savings and improvement of the students/patients/employees health and well-being) is expected with better heating system of the buildings
- The Preventive and Regular Maintenance Plan should be developed by the Building Officials and implemented on regular basis for all elements in the heating system.

3. Example of Environmental and Social Mitigation Plan for sub-projects that propose replacement of street lighting with EE bulbs in municipalities

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
Project activity: Removal of the mercury bulb lamps and instalment of LED bulbs and solar lightning			
Adverse environmental impacts to soil, water and air as well as posing a health threat due to the following: • inappropriate handling during removal bulbs operation; • incidentally bulb breakage; • no adequate identification as hazardous waste according the National List of waste; • collection, transportation of the hazardous waste mercury bulbs by non-authorized company; • not appropriate selection, packaging and labeling of mercury bulbs as hazardous waste stream; • mix of the waste mercury bulbs with non-hazardous waste or with municipal waste; • final disposal of the waste mercury bulbs to the appropriate authorized landfill.	Local Short term Major with high significance at settlements	▪ Distribution of the informing to the local population about project activities (municipal web site: http://Konche.gov.mk/, social networks, local radio and TV Station and municipal board and newspaper about the project activities – start and finish of work for each day and location of activities, duration of work and low speed traffic on targeted streets); ▪ Application of good practice for handling the dismantled mercury lamps: • Power disconnection during the removing to avoid risk of fatal electric shock; • Wearing disposable rubber or plastic protection gloves; • Upon removal from the fixture the bulb must immediately be placed in strong disposal box / container to prevent bulb breakage since the hazardous vapor is contained inside bulb; • Appropriate disposal box must be sufficiently strong to prevent damage to the bulbs during the normal storage or while being transported to the storage facility; • If the bulb breaks, the operator must wear gum/latex gloves to pick up the glass shards using the two pieces of stiff paper or cardboard as shards are sharp; • The operator must wipe the area with a damp paper towel or a disposable wet wipe to pick up any small shards and the powder residue; • The broken glass and end pieces should be placed in a plastic bag as well as the used gloves and all debris. The plastic bag should be sealed and placed in another paper bag or box to prevent the glass from puncturing the plastic bag. The box should be labeled as hazardous waste; • Place the temporary protection fence around the light in order to protect street walkers of evaporation and injuries in case mercury bulb breaks; • Usage of Material Safety Data Sheet for E27 bulbs for occupational and safety precautionary measures for operators (appropriate hand and eye protection should be worn when disposing of lamps or handling broken glass); • Apply the emergency and normal first aid procedure for glass cuts if such occur through lamp breakage. ▪ Identification of the used mercury bulb lamps as a hazardous waste stream:	- Contractor - Supervisor - Municipal staff: Environmental inspector/ Inspector for communal works and traffic Contractor Supervisor Environmental inspector PCE for communal works

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
		• Classification of the used lamps as a hazardous according the national List of Waste (Official Gazette no.100/05). This waste has been classified under the Waste Chapter 20 "Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions" with the waste code 20 01 21 - "lamps and other waste that contains mercury"; • Separation of the hazardous from non-hazardous waste streams at the light location sites (all 8 villages in the municipality); • Contractor must engage authorized company to collect and transport the hazardous waste in accordance with national legislation with emphasis on the transportation of hazardous (toxic) goods: - Possessing a License for collection and transportation of hazardous waste (Law on Waste – Official Gazette no. 68/2004, 71/2004. 107/2007), - Obligations for packaging and labeling of hazardous waste (Rulebook on conditions for hazardous waste handling, packaging and labeling – Official Gazette no. 15/08), - Transportation of the hazardous waste (Law on Transport of Dangerous Substances (Official Gazette of RM No. 92/07), - Apply appropriate packaging and labeling of the boxes with waste mercury bulbs, - The packaging should follow the requirements of national legislation - The label should present the hazardous classification code, attention note "HAZARDOUS WASTE", general data for the waste holder, hazard symbols, R-risk phrase, S – safety phrase, quantity of waste, physical conditions of hazardous waste and pictograms. • The transport of hazardous waste is forbidden if it is not packaged and labeled according the national legislation requirements; • Avoid to dispose the mercury bulbs waste into the municipal waste bins/containers – mixture of hazardous with non-hazardous wastes is forbidden; • The Municipality must identify and assign a storage place where the dismantled mercury bulb lamps will be stored temporarily (for further final disposal). This facility shall possess adequate ventilation, fire resistant conditions, locked with key, with limited entrance and no heavy materials above the boxes placed. • Fulfillment of the Annual Report for collection and transport of hazardous waste management by the transporter and the Municipality reporting to the Ministry of Environment and Physical Planning.	PCE for communal works Municipality
Project activity: Operational phase of the new street lighting			
Possible adverse environmental and health risk due to the following:	Local Long-term	Perform the periodically checkups and regular maintenance for safety usage of streetlights;	PCE for communal works

Potential impact	Impact scale	Proposed mitigation measures	Responsibility
• Broken LED lamps; • Broken solar panels and lights • Vibrations of the vehicles could cause the screws, steel tracks or rivets to get loosened.		The PCE shall prepare short descriptive manual for employees/workers, for proper storing of the packages/light bulbs and for dismantling, replacement, packing and disposal of the old/burnt-out LED bulbs. The PCE shall have “Evidence List” which will be used as a document, in the up-coming years during the maintenance of the communal/street lighting.	Municipality

4. Example Environmental and Social Monitoring Plan for sub-projects that propose rehabilitation of public buildings with EE measures

What *parameter is to be monitored?*	**Where** *is the parameter to be monitored?*	**How** *is the parameter to be monitored?*	**When** *is the parameter to be monitored (frequency of measurement)?*	**Why** *is the parameter to be monitored?*	**Cost**		**Responsibility**	
					Construction	Operations	Construction	Operations
Project stage: Preparatory activities for reconstruction of public building for energy efficiency improvement								
The community safety regulation and protection measures applied	Around the project site	Visual checks	At the beginning of the reconstruction work (first day) Every working day during the project activities	To ensure minimization of health and safety risks – mechanical injuries to the members of the local community			Contractor /Supervisor/ Municipal staff (Environmental Inspectors) Building officials	
The OH&S protection measures applied for the workers at the sites	On the project site	Visual checks	Every working day during the project activities	To minimize the risks on occupational health and safety of the workers especially protective equipment and clothes for workers who will remove asbestos containing roof sheets			Contractor /Supervisor/ Municipal staff (Environmental Inspectors) Building officials	
Avoid and minimize safety and health risks for the PAP	In the building and in the yard	Visual checks	At the beginning the retrofitting work and continuously every working day	To avoid injuries of the PAP from inhalation of the asbestos fibers or other construction dust			Contractor /Supervisor/ Municipal staff (Environmental Inspectors) Building officials	
Time for beginning and end of renovation work and especially time for removal of existing roof sheets containing asbestos	On the project site	Visual checks and documents (time schedule) review	Every day	To avoid the environmental, health and safety risks			Contractor /Supervisor/ Municipal staff (Environmental Inspectors)/ Building officials	
Existence of the broken glass, dust generated during the renovation	In the rooms, corridors and yard	Visual checks	For dust generation every day after completion of work	To avoid and minimize injuries and dust inhalation			Contractor /Supervisor/ Municipal staff (Environmental Inspectors)/ Building officials	
Project stage: Reconstruction works at public building for energy efficiency improvement								
The OH&S protection measures applied for the workers at the site	On the project site	Check the documentation for relevant OHS Certificates and trained workers	Prior to start of the demolition works Every working day during the project activities	To minimize the risks on occupational health and safety of the workers especially protective equipment and clothes for workers who will			Contractor /Supervisor/ Municipal staff (Environmental Inspectors) State Sanitary and Health Inspector	

What *parameter is to be monitored?*	**Where** *is the parameter to be monitored?*	**How** *is the parameter to be monitored?*	**When** *is the parameter to be monitored (frequency of measurement)?*	**Why** *is the parameter to be monitored?*	**Cost**		**Responsibility**	
					Construction	Operations	Construction	Operations
		Visual checks for using the protective equipment		remove asbestos containing roof sheets			Building officials	
Primary selection of the waste streams at the project sites	On the project sites	Review the documentation – identification of the waste type according the List of waste	At the beginning of work	To separate hazardous (packaging waste from glue, paints, insulation material) from the non-hazardous waste as well as inert from biodegradable waste			Contractor / Supervisor/ Municipal staff (Environmental Inspectors)	
Identification of the asbestos containing waste, proper packaging, labeling as a hazardous waste	On the project sites	Review the documentation – identification of the asbestos containing waste according the List of waste	At the beginning of work	The asbestos containing (ACM) waste is a hazardous waste with adverse environmental and health impacts			Contractor / Supervisor/ Municipal staff (Environmental Inspectors)	
Temporary storage of the removed waste/ proper packaged and labeled	At separate room/basement of the buildings or in the yard	Visual checks	On daily basis	To minimize injuries			Contractor Building officials	
The contract with the authorized transporter of the asbestos containing waste should be signed The contract with the Landfill Drisla should be signed as well for acceptance and final disposal of the waste	Before the removal/dismantle works start	Review the contracts	During the collection and transportation of the removed roof sheets Before the final disposal of removed sheets	To be sure that the asbestos containing waste will be treated according the national legislation, international conventions, good practice			Contractor who needs to sign the contract with licensed company for acceptance and final disposal of the asbestos containing waste. The Landfill Drisla has a License for acceptance and final disposal of asbestos waste issued by the Ministry of Environment and Physical Planning	
Fulfilled Annual Report on transportation and disposal of waste	Local self-government administration	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation, temporary disposal and final disposal of different type of waste including asbestos containing waste	To improve the waste management and hazardous waste management on local and national level			Project participant	

5. Example of Environmental and Social Monitoring Plan for sub-projects that propose installation of Energy Saving Heating Systems in public buildings

What parameter to be monitored?	**Where** is the parameter to be monitored?	**How** is the parameter monitored?	**When** is the parameter monitored (frequency of measurement)?	**Why** is the parameter monitored?	**Cost**		**Responsibility**	
					Construction	Operations	Construction	Operation
Project stage: Preparatory activities for installation of renewable energy/heating system in public building								
Preparation and implementation of the OH&S Plan	On and around the reconstruction site	Documentation reviewed and approved by the Supervisor and visual monitoring performed permanently	At the beginning of the reconstruction (first day) Every working day during the project activities	To provide good reconstruction practices refer to PAP health and safety			Contractor Supervisor	
The safety protection measures applied for the PAP	On the construction site	Visual checks	During the construction activities At the beginning of each working day during the project activities				Contractor Supervisor Communal Inspector Building officials	
Existence of dust generated during the construction	In the rooms, corridors and yard	Visual checks	For residual materials immediately/ for dust generation every day after competition of work	To avoid and minimize injuries and dust inhalation			Contractor /Supervisor/ (Communal and Environmental Inspectors)/ Building officials	
Project stage: Installation of the renewable energy/heating system in public building								
Preparation and implementation of Waste Management Plan	In yard, in building and around the building	Documentation reviewed, approved by the Supervisor and visual monitoring	Monitoring regularly during the project duration	To ensure environmental protection through proper waste management (according the waste streams management hierarchy)			Contractor /Supervisor	
Primary selection of the different waste streams	On the sites	Review the documentation	At the beginning of project activities	To separate hazardous from the non-hazardous waste as well as inert from biodegradable waste			Contractor – Bidder Supervisor	
Collection and transport as well storage of hazardous waste (if any occurs)	On safety temporary storage	Review the transportation list and conditions at the storage facility	Before the transportation of the hazardous waste (if there is any)	To improve the waste management practice on municipality and national level			Authorized Contractor for collection and transportation of	

What parameter to be monitored?	**Where** is the parameter to be monitored?	**How** is the parameter monitored?	**When** is the parameter monitored (frequency of measurement)?	**Why** is the parameter monitored?	**Cost**		**Responsibility**	
					Construction	Operations	Construction	Operation
							hazardous waste subcontracted by the Contractor	
Collection transportation and final disposal of the solid waste	On the sites and around the sites	Visual monitoring and reviewing the transportation and disposal lists from the sub-contractor	After the collection and transportation of the solid waste on regular base each day	Not to leave the waste on the spot to avoid the environmental and health impact on local population			Contractor Supervisor	
Fulfilled Annual Report on collection, transportation and disposal of different waste streams	Local self-government administration	Review of documentation – Identification of waste list	After the accomplishment the task of collection, transportation, temporary disposal and final disposal of waste	To improve the waste management on local and national level To be in compliance with national legal requirements			Mayor of the municipality / Ministry of Environment and Physical Planning	
Noise measurements	On the sites and in the rooms	Monitoring of the noise levels dB (A) with appropriate monitoring devices	During the work peaks, in cases of complaints	To ensure noise level limits according to regulation as well as noise exposure limits for inside rooms and in the yard			Contractor Supervisor	
Project stage: Operation of four primary schools in the municipality Lipkovo								
Plan for regular and preventive maintenance of the buildings	Before the start of working operation	Review of the Plan	At the beginning of work	To ensure proper implementation of actions refer to just on time preventive and regular maintenance, procurement of spare parts, replacements of worn parts reducing unplanned failures, extend equipment lifetime and to ensure proper and safe building operation				Building Officials and Housekeepers Mayor/ Municipal Council

6. Example of Environmental and Social Monitoring Plan for sub-projects that propose replacement of street lighting with EE bulbs in municipalities

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility	
					Removal of old lamps/ Placement of new lights	Operations of the new lights	Removal of old lamps/ Placement of new lights	Operations of the new lights
Project stage: Removal of the mercury bulb lamps and instalment of LED bulbs and solar lightning								
Power disconnection	On the spots / All villages where the replacement will be done	Electrical tool	Before the removal steps	To avoid /prevent the risk of fatal electric shock			Contractor /Supervisor	
The safety protection measures applied for the operators	On the sites	Visual checks	At the beginning of each working day and during the removal operation	To prevent health risks – injuries, glass pieces			Contractor /Supervisor Environmental Inspector at the Municipality	
Collection, package, labelling of hazardous (mercury parts) lamps	On all project locations	Visual check on packaging boxes, check the information on label and all necessary data and information to identify the hazardous waste (hazard pictograms, S and R phrases)	When the packaging box with hazardous waste is full and before the temporary storage/on weekly basis	To prevent the environmental pollution and health risks. To provide safety hazardous waste management according the national environmental and heath requirements			Authorized Contractor for collection and transportation of hazardous waste subcontracted by the Municipality /Environmental Inspector	
Separated hazardous and non-hazardous waste	On all project location	Visual monitoring and reporting	During the dismantling activities	To avoid disposal of hazardous waste on municipal landfill			Contractor / Environmental Inspector	
Transport and temporary storage of hazardous waste	On safety temporary storage dry, very well ventilated place (Separate room for boxes with unbroken lamps) The adequate place will be ensured by the Municipality for box/es with broken lamps	Review the transportation list and conditions at the storage facility (dry place, ventilation, labels for restriction for entrance…	Before the transportation of the hazardous waste	In order to be in line with the environmental conditions required for the hazardous waste management according national legislation and best practices			Authorized Contractor for collection and transportation of hazardous waste subcontracted by the Municipality / Environmental inspector	

What parameter is to be monitored?	Where is the parameter to be monitored?	How is the parameter to be monitored?	When is the parameter to be monitored (frequency of measurement)?	Why is the parameter to be monitored?	Cost		Responsibility	
					Removal of old lamps/ Placement of new lights	Operations of the new lights	Removal of old lamps/ Placement of new lights	Operations of the new lights
Delivery of the E27 EE to the long-term storage place	At municipality site/Documentation of delivery and acceptance	Report of delivery the E27 EE bulbs to the long-term storage place and acceptance	The Decision of the Municipality for allocation and nomination of storage place	To ensure that the replaced (currently used) E27 EE bulbs will be properly kept for future use			Mayor of the Municipality	
Fulfilled Annual Report for collection, transportation and disposal of hazardous waste	At Authorized Contractor's headquarter building And Local self-government administration	Review of documentation – Identification waste List	After the accomplishment the task of collection, transportation and temporary disposal of used lamps	To improve the waste management and hazardous waste management on local and national level To be in compliance with national legal requirements			PCE of Municipality Mayor of the Municipality Ministry of Environment and Physical Planning	
Safety traffic flow through the site where street lighting is positioned	At the spot	Visual monitoring	During the traffic jam period (8 - 8.30/16.30-17 h)	To ensure the coordinated traffic flow through municipality/ villages where the replacement will be done			Contractor / Environmental Inspector Traffic Engineer at Municipality	
Project stage: Placement of new LED E27 EE lamps								
Separated recycled waste of packaging waste from new LED lamps (paper, cardboard,) collected and delivered to authorized company for collection of packaging waste	On the sites	Visual monitoring and reporting	During the unpackaging of new LED lamps/on daily basis	To collect the recycled materials - paper and cardboard			Contractor / Municipality Environmental Inspector	
Project stage: Regular operation and maintenance								
Loosened of all parts of the light Clearness of the lanterns	At the sites	Visual monitoring and check-up Clean the lanterns for better lighting of the lamp	On every six months (winter/summer period)	To mitigate the adverse environmental and health impacts and to obtain better lighting of the lamps				Maintenance department at the Municipality

Appendix 7:

Environmental and Social Screening Checklist

UPDATE NO.1: ENVIRONMENTAL AND SOCIAL FRAMEWORK FOR PUBLIC SECTOR ENERGY EFFICIENCY PROJECT

Environmental and Social Screening Checklist

Sub-project title	
Project participant applicant	
Proposed date of start of work	
Technical drawing/ Specifications (describe status of sub-project, existing studies, etc.)	

Brief description of sub-project

Nature of the project
Physical size
Site area, location
Property ownership
Existence of on-going operations, plans for expansion and how it will contribute to achieve the comfort level
Description of main planed sub-project activities and impacts
Project cost
Number of beneficiaries (gender desegregated)
Number of participants to public disclosure (gender desegregated)

A) Environmental impacts related to proposed sub-project – existing situation				
Environmental issues/concerns	**Predicted Effect/Impact (to be described in words in suggested column)**			
	No Impact	**Minor**	**Moderate**	**Major**
Will the sub-project affect declared protected areas				
Will the sub-project be located in or near Environmentally sensitive or protected area (in accordance with MK legislation)				
Will the sub-project affect critical habitats such as forest ecosystem, wetlands, marshlands, aquatic ecosystems?				
Will the sub-project affect endangered plant and animal species?				
Will the sub-project involve the introduction of exotic or alien species?				
Will the sub-project affect archaeological sites, historic monuments and settlements?	Civil Works EHSS Officer Daily Compliance Checklist			
Other physical and environmental issues and concerns – its nature and impact				
Will the sub-project affect the daily operation of the building and people?				
Will there be land acquisition using eminent domain law?				
Is the building protected under Law for protection of cultural heritage?				
Is the building of special significance to any vulnerable group (i.e disabled people, minorities, youth e.t.c)				

B) Environmental impacts related to sub-project construction and operation				
Environmental issues/concerns	Predicted Effects/Impacts (describe in words in suggested column)			
	No Impact	**Minor**	**Moderate**	**Major**
Will the sub-project involve the use of forest trees or other natural as building materials?				
Will the sub-project emit greenhouse gases (CO_2, NOx, O_3) or ozone-depleting substances (CFC, methyl bromide etc.)?				
Will the project contribute to pollution of international waters?				
Will the sub-project use, produce or discharge hazardous and toxic materials (e.g. hospital waste, industrial waste or other?)				
Will the sub-project produce or cause occupational and industrial hazards?				
Will the sub-project cause dust and noise pollution after its completion?				
Will the sub-project cause water pollution after its completion?				
Will the sub-project involve any permanent or temporary restrictions in building use?				
Other environmental or social impact (describe nature and severity of its impact)	*Preparatory phase* *Construction phase* *Operation phase*			

OFFICIAL ASSESMENT OF THE MF/SCREENING OFFICER ON THE IMPACTS OF SUB-PROJECT

	Minor	Moderate	Major	Remarks
What is the overall assessment of the MF on the environment and social impacts of the project (positive/negative)?				
Does the sub-project belong to area as determined in ESMF, and to which one (refer to table and page of ESMF)				
Other comments and information				

Name of Environmental Specialist:

Civil Works EHSS Officer Daily Compliance Checklist

Name of Social Specialist:

Date of Screening

Cleared for approval by: _____ Yes _____ No _____

Name of Project Coordinator:

Signature _____ Date

Notes: Approval from WB will be required

Appendix 8:

Daily compliance checklist and photographs for Contractors

Civil Works EHSS Officer Daily Compliance Checklist

UPDATE NO.1: ENVIRONMENTAL AND SOCIAL FRAMEWORK FOR PUBLIC SECTOR ENERGY EFFICIENCY PROJECT

Sub-project Title:_____ Site Location: _____

Construction Stage: _____ Inspection Date:_____

Inspection Time: _____ Inspected by: _____

Mitigation Measures	Implementation Timing	Compliance Status		Remarks
		Y	N	(good practices, problem observed, possible cause of noncompliance and/or proposed corrective/preventive actions)

Appendix 9:

Minutes of the Public Disclosure process:

1. **For the ESMF of the Parent PSEEP Project conducted during 2019, and**
2. **For the Additional Funding implementation conducted in 2023**
3. **For the Public Disclosure process for the updated ESMF for the Additional Financing of the PSEEP prior to the Project restructuring**

MINUTES No. 1: Summary of the public consultation meeting

Location

The Public consultations were held on November 18, 2019 at the premises of the Ministry of Finance, from 14.00 pm to 15.30 pm.

Objective

The public hearing and consultation meeting was aimed to present the main development goals of the Public Sector Energy Efficiency Project, new WB Environmental and Social Framework policy and requirements and main findings within the draft version of the **Environmental and Social Management Framework (ESMF) for the Public Sector Energy Efficiency Project (PSEEP)** in front of relevant interested stakeholders. The open, transparent and active public participation was ensured with main aim to enable the stakeholders to provide their concerns, comments and remarks on the draft documents.

Invitees

The following interested stakeholders have been invited by e-mail: WB Office in Skopje, Ministry of finance (MoF), Ministry of Environment and Physical Planning (MoEPP), Environmental Administration AE (MoEPP), Ministry of Economy, Ministry of Transport and Communication (MoTC), Agency for Energy, ADKOM, ZELS, City of Skopje, several environmental NGOs, Ministry of local self-government units, energy experts, consulting companies and other concerned institutions (altogether 43 invited stakeholders).
The public announcement for open consultation was posted on the website of MoF (http://www.finance.gov.mk/mk/node/1056) – **Annex 1.** Invitation letter is attached in **Annex 2**.

Participants

62 participants (plus MSIP/MSIP2 PIU representatives) attended the Public hearing and consultation meeting; copy of the List of Participants is enclosed in **Annex 3**. Several photos were taken during the event and are shown in **Annex 4**.

Summary conclusions and comments

DISTRIBUTED MATERIALS

The power-point presentation for the ESMF in Macedonian language.
The draft Environmental and Social Management Framework (ESMF) document, Stakeholder Engagement Plan (SEP) and Environmental and Social Commitment Plan (ESCP) were published on the Ministry of Finance website both in Macedonian and English.

CONCLUSIONS AND COMMENTS

The Lead Coordinator of the MSIP project Ms. Tanja Tomic (**TT**) welcomed the participants and she briefly introduced participants with the main aim of the event and the main development objectives of the project. She elaborated on the project components, the partners of the Ministry of Finance in the implementation of this project, as well as the expected project beneficiaries. She also stated out some of the basic criteria that should be met in order for a building to be eligible for application.
The environmental expert within the MSIP project Ms. Katarina Georgievska (**KG**) presented the ESMF document, the main aim of the document and WB environmental safeguard and social requirements related to the preparation of the ESMF.
KG presented the relevant WB safeguard ESS that should be followed during the implementation of the PSEEP and the importance of environmental/social impact assessment of the project activities, identification of the potential environmental and human health risks, impacts and necessity to propose the preventive, mitigation and compensation measures to be implement by the Contractors.
KG explained that a general Environmental Mitigation Plan and Monitoring Plan have been developed within the ESMF, and when the PSEEP starts, site-specific Environmental Mitigation Plan and Monitoring Plan should be developed for each sub-project, which will be part of the Contract with the Contractors, who will need to implement them and the Supervisor will need to monitor their implementation.
KG also elaborated on the social risks and influences that might occur during the implementation of different sub-projects, as well as the institutional structure and arrangement for this project. At the end she opened the discussion.

Discussion

The discussion after the presentation of the ESM framework document took place around the several points and recommendations.

- The representative of MACEF association pointed out that it would be beneficial if the association of licensed energy controllers is involved in the designing process.
- The representative from CeProSARD enquired whether buildings that have been partially renovated in the recent years are eligible under these investments.
- The representative of MACEF association asked in what way this project would contribute to the national responsibility to reconstruct 1% of its entire property on annual basis (the number of national buildings should be verified in cooperation among the Ministry of Finance, the Ministry of Economy and the Agency for Real Estate Cadastre).
- A representative from the Municipality of Gjorche Petrov pointed out that it should be looked into the possibility for the period of investment return to be connected to the amount of financial subsidies received by the state budget i.e. not to reduce the subsidies due to reduced operational expenses resulting from the implementation of a sub-project from the PSEEP.
- A representative from the Small Business Chamber stressed that attention should be paid to the type of ventilation systems installed as to avoid negative health impacts of the users i.e. energy efficiency expert/energy managers should be involved in the process of preparation of the technical design.
- The MACEF representative shared the information that the Energy Agency requires all the municipalities to fill out a Monitoring Verification Platform (e.g. for energy consumption, CO2 emissions, etc.) on an annual basis and he advised the PSEEP to implement a mechanism to support this requirement.
- The representative of the Skopje Planning Region enquired if one project that has a regional importance for several municipalities can be applied within the PSEEP project, having combined financing.
- One participant enquired whether the Ministry of Environment and Spatial Planning and the State Environmental Inspectorate were/will be involved in this Project. TT answered that the Ministry of Environment will be involved through the Coordination Committee, where this Ministry will have its member. KG added that the site-specific ESMPs have a structure that proposes responsibilities for all involved parties, including environmental. Communal and construction inspectorates.
- The representative of the NGO "Eco-svest" discussed how the public insight to a specific sub-project will be obtained. KG explained that the ESMF and SEP documents have listed all the procedures for stakeholder engagement during the preparation of the site-specific ESMP which will be public and reasonable time of 30 days will be provided for commenting.

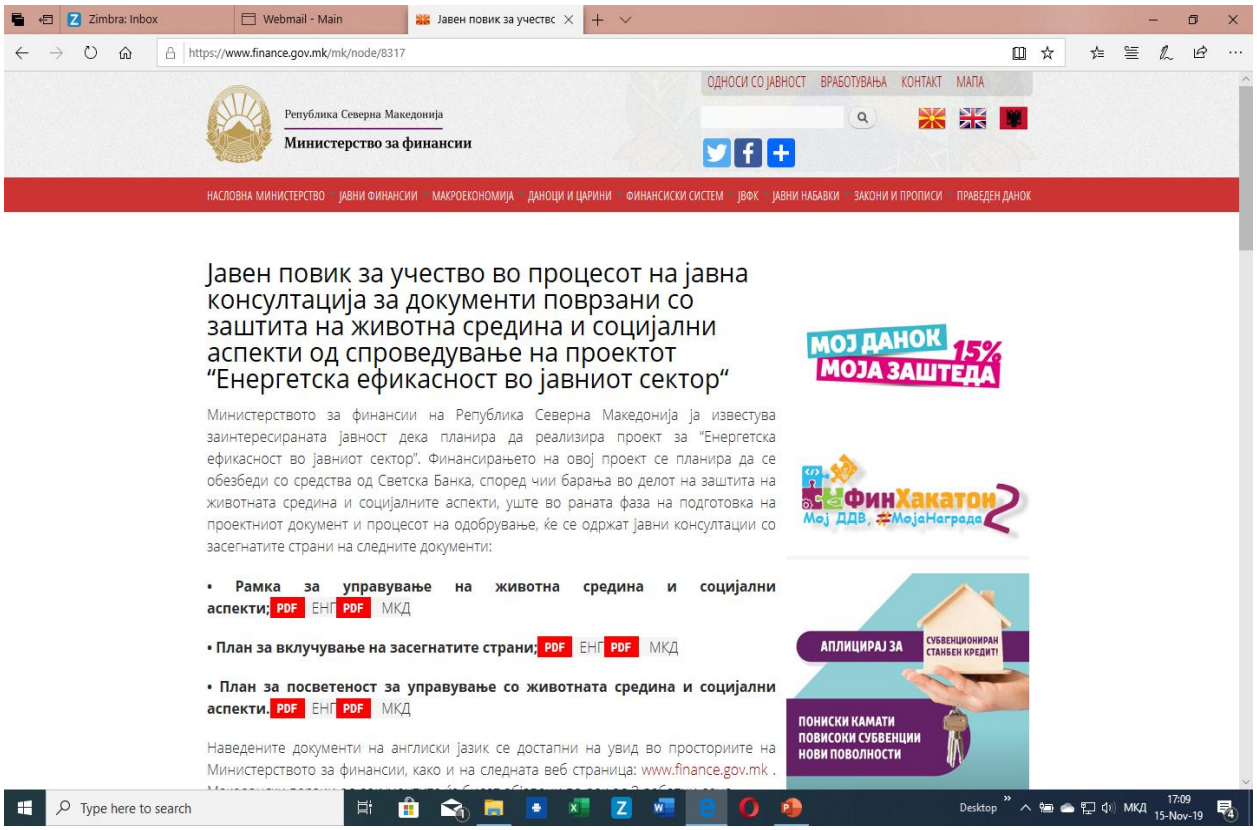
KG informed the present that minimum 50% of the total building capacity should be used in order for a building to be eligible and this should be taken into consideration during the application process.
Other questions regarding the project applications, eligibility criteria and overall process flow were also addressed. No specific comments or remarks on the draft ESMF were provided by any participant and no need for any amendments is foreseen until now, except fine-tuning for better descriptive explanation of the process/sub-project flow.

CLOSING REMARKS
The meeting was closed and closing remarks were given by TT, expressing gratitude to all participants about their attendance of the event, their active participation and interest concerning the PSEEP project. Due to the current comprehensive process of development of all project related documents, including ESMF, the MF will prepare and submit Minutes of the Public Consultation meeting during the same week to the WB. However, the public will be offered a reasonable period of 30 days for communication with the MSIP PIU regarding improvement of the ESMF, by 6th December 2019, so it can be considered as a document for the Loan Agreement. In case there are any comments receive in due period, they will be addressed to the ESMF by a written Note.

Responsibility Environmental expert **(KG)** will prepare the final version of **Environmental and Social Management Framework** document, as well as the Summary of the public consultation and

discussion related to the draft ESMF and she will incorporate them within the final version of the ESMF. Social expert (TT) will prepare the final version of SEP and LMP documents.
The final versions of ESMF and related documents will be delivered to the World Bank for final review and no-objection.

Annex 1: Public announcement launched on the Ministry of Finance web site



Annex 2: Invitation Letter for the Public hearing and consultation event

Покана за јавна консултација.pdf

Annex 3: List of participants on the Public hearing and consultation event (18.11.2019)

Проект за енергетска ефикасност на јавниот сектор
Рамка за управување со животната средина и социјални аспекти
-Јавни консултации 18 ноември 2019 - Скопје

Ред. бр	Име и презиме	Институција/организација	Телефон за контакт	Е-маил	Потпис
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Проект за енергетска ефикасност на јавниот сектор
Рамка за управување со животната средина и социјални аспекти
-Јавни консултации 18 ноември 2019 - Скопје

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Проект за енергетска ефикасност на јавниот сектор
Рамка за управување со животната средина и социјални аспекти
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Annex 4: Photos taken during the Public consultation event

MINUTES No. 2: Summary of the public consultation meeting for the ESMPs of two health-care buildings for the Additional Financing

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

Записник од јавна расправа

Датум на состанок: 28.07.2023

Место: Министерство за финансии, Скопје

Присутни: Листа на присутни дадена во прилог

Теми и цели на јавната расправа	Целта на јавната расправа е да се одржи јавна презентација на *Планот за управување со животна средина и социјални работи (ПУЖССР)* за под-проектите: (1) *„Реконструкција на ЈЗУ Универзитетска клиника за физикална медицина и рехабилитација – Скопје со мерки за енергетска ефикасност"* и (2) (1) *„Реконструкција на ЈЗУ Здравствен дом Скопје – поликлиника Идадија со мерки за енергетска ефикасност"* кои ќе се спроведуваат во рамки на првата компонента (ЕЕ во објекти на централните власти) од *Проектот за енергетска ефикасност во јавниот сектор* (ПЕЕЈС) при Министерството за финансии, а финансиран преку заем од Светска банка.

Состанокот го отвори Тања Томиќ, Главен координатор на ПЕЕЈС и Експерт за социјални работи, при што ги претстави целите и потребата на јавната расправа. Таа ги презентираше во кратки црти ПЕЕЈС и *Рамката за животна средина и социјални работи* на целиот ПЕЕЈС изготвена врз основа на барањата на Светска Банка.

Консултантот за градежни работи за овие два под-проекти при ПЕЕЈС, Јасминка Тасева Јанковиќ ги претстави клучните градежни работи и позиции.

Беа претставени во кратки црти клучните влијанија од проектните активности врз специфичните здравствени дејности на двата објекти, како и предвидените мерки за постојана грижа на корисниците/пациентите додека се изведуваат градежните работи.

Клучни влијанија според чек листата

Врз основа на наодите од извештаите за Енергетска Контрола и основните проекти за реконструкција со мерки за енергетска ефикасност, за двата објекти беа подготвени и документите *"План за управување со животна средина и социјални работи"* (ПУЖССР) во кои се анализирани влијанијата врз животната средина и социјалните работи кои ќе произлезат од планираните активности на под-проектите. Овие документи беа поставени за јавен увид на официјалните веб страници на:

Министерството за финансии (Б.-ПУЖССР-за-реконструкција-на-ЈЗУ-УК-за-Рехабилитациіа-и-ФМ-Скопје.pdf) и (Б.-ПУЖССР-за-реконструкциіа-на-ЈЗУ-ЗД-Идадиіа-

1

Скопје.pdf) линк до Министерството за здравство (Министерство за Здравство – Министерство за Здравство) на 25.07.2023 год.

Известувања за датумот на јавната расправа беа поставени на влезовите од околните згради со цел подобро информирање на заинтересираните граѓани во околината.

Слики 1 и 2. Информативни летоци на влезовите од зградите за јавната расправа за ПУЖССР за под-проектите

Главниот Координатор на Единицата за спроведување на проектот ПЕЕЈС, Тања Томиќ, ги презентираше суштинските клучни влијанија врз животната средина и социјалните работи од под-проектот, а комплетната листа со деталните мерки се содржат во табеларниот преглед од ПУЖССР документот кој бил достапен за увид преку веб-страниците.

Потоа беа поканети присутните за дискусија / прашања / коментари.

Дискусија

Беше изразена загриженост околу објективното изведување на работите во согласност со основните проекти, на што вработените во единицата за спроведување на ПЕЕЈС одговорија дека постои цел механизам за контрола на изведбата, од редовна комуникација со корисниците на објектот, ангажиран стручен надзор од страна на ПЕЕЈС, па до целосно одобрување на сите позиции од страна на градежниот инженер при ПЕЕЈС и конечното одобрување на исплатите кон изведувачот. И Механизмот за поплаки е исто така можност

за корисниците да достават свои забелешки до ПЕЕЈС доколку сметаат дека има некои повреди и неправилности при градежните работи.

Слика 1. Присутни на јавната расправа за ПУЖССР за под-проектот

Слика 2. Презентација за ПУЖССР за под-проектот во текот на јавната расправа

Во однос на грижата за корисници (пациенти), беше укажано дека барем еден месец пред почетокот на градежните работи, Единицата за спроведување на проектот ќе работи со управите на двата објекти да се изработат детални Планови за работа во текот на градежните работи за реконструкција. Овие планови ќе ги мапираат сите поединечни здравствени дејности/одделенија, со нивните дејности, можностите за краткорочно

префрлање на дејноста од едни во други простории или пак пренасочување на пациентите. Плановите ќе се изработат специфично за сите простории/делови од објектите кои ќе се реконструираат, а со цел минимизирање на негативните последици од изведбените работи, односно континуирано обезбедување на услугите кон пациентите. Беа продискутирани и разни други потреби, на пример, грижата за деца и вакцинација во Идадија, начин на користење на стационарот при дејноста за рехабилитација итн.

Од УК за РФМ беше прашано дали ќе се менува системот за греење со оглед на неговата дотраеност и високот загадување во зимските месеци, бидејќи се користи сопствен систем за греење на мазут. Претставниците од ЕСП одговорија дека токму поради тие причини, системот за греење ќе боде целосно заменет во сите поединечни објекти, со систем за греење на топлински пумпи, а дополнително, на крововите ќе се постават и фотонапонски системи за сопствено производство на електрична струја со цел задоволување и на овие високи потреби за работа на павиљоните со овие дејности (базен, опрема за рехабилитација итн.)

ПУЖССР беше позитивно оценета дека ги опфаќа потребните елементи, по што расправата беше затворена со известување за можноста за доставување на коментари и во писмена форма до 24.08.2023 до единицата за спроведување на проектот.

На јавната расправа учествуваа 9 лица, од кои 7 жени и 2 мажи.

Забелешка: До 24.08.2023 год. до единицата за спроведување на проектот ПЕЕЈС нема пристигнато дополнителна забелешка/коментар за ПУЖССР за под-проектот.

Подготвил: Катарина Георгиевска, 15.09.2023, Скопје

Прилози: Листа на присутни

Известувања за достапност

Презентација

Presentation PSEEP - Рехабилитација и Ид

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

Република Северна Македонија
Министерство за финансии

Единица за управување со Проект за енергетска ефикасност во јавниот сектор

Јавна консултација за ПУЖССР – 28 јуни 2023 година – Скопје

„Проект за реконструкција на ЈЗУ УК за физикална медицина и рехабилитација и ЈЗУ Здравствен дом Скопје – поликлиника Идадија со мерки за подобрување на енергетската ефикасност"

Листа на присутни

Бр.	Име и презиме	Институција	E-маил	Телефон за контакт	потпис
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

ИЗВЕСТУВАЊЕ
за достапност на документ
План за управување со животна средина и социјални работи (ПУЖССР) – Контролна листа и јавна расправа

за под-проектот:

Реконструкција на ЈЗУ Универзитетска Клиника за физикална медицина и рехабилитација – Скопје со мерки за енергетска ефикасност

Во рамки на "Проектот за енергетска ефикасност во јавниот сектор во РСМ" кој се реализира од страна на Единицата за спроведување на проектот при Министерството за финансии со финансиска поддршка од Светска Банка, во компонентата за згради на централните власти предложена е реконструкција на ***ЈЗУ Универзитетска Клиника за физикална медицина и рехабилитација – Скопје*** со мерки за енергетска ефикасност.

Согласно *Рамката за животна средина и социјални работи* изготвена врз основа на барањата на Светска Банка беше подготвен документ "Контролна листа со мерки за управување со животна средина и социјални работи" во кој се наведени детални мерки за ублажување на влијанијата врз животната средина и социјалните работи кои ќе произлезат од планираните активности на под-проектот. Овој документ е поставен за јавен увид на официјалните веб страници на:

Министерството за финансии (Под-проекти за енергетска ефикасност во објектите на јавните здравствени установи - finance.gov.mk) и на:

Министерство за здравство: Министерство за Здравство – Министерство за Здравство (zdravstvo.gov.mk) од 25.07.2023 година.

Вашите коментари може да ги доставите во рок од 30 дена од поставување на документот на веб страна, преку пополнување на формуларот кој е достапен на следниот линк:

Формулар-за-поднесување-коментари-за-ПУЖССР-за-објекти-на-здравствени-установи-1.docx (live.com)

Јавната расправа за контролните листи од документите Планови за управување со животната средина и социјалните работи (ПУЖССР), ќе се одржи на **28.07.2023 (петок) со почеток во 11.00 часот во Министерството за финансии во Скопје (сала на 1ви кат),** со следниот дневен ред:

1. Воведен збор на Главниот координатор на Единицата за спроведување на проектот при Министерство за финансии за Проектот за енергетска ефикасност во јавниот сектор: Тања Томиќ, Главен координатор на проектот и специјалист за социјални работи - 10 минути
2. Краток осврт на активностите за реконструкција на ***ЈЗУ Универзитетска Клиника за физикална медицина и рехабилитација – Скопје*** – Јасминка Тасевска Јанковиќ, Градежен инженер консултант при ПЕЕЈС – 10 минути
3. Краток осврт на документите "План за управување со животната средина и со социјалните аспекти за проектите": Тања Томиќ, Главен координатор на проектот и специјалист за социјални работи – 20 минути
4. Дискусија

Датум на објава: 25.07.2023

Министерството за финансии
Единица за спроведување на проектот

б

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

Министерство за финансии
Проект за енергетска ефикасност во јавниот сектор во РСМ

ИЗВЕСТУВАЊЕ
за достапност на документ
План за управување со животна средина и социјални работи (ПУЖССР) – Контролна листа и јавна расправа

за под-проектот:

Реконструкција на *ЈЗУ Здравствен дом - Скопје, Поликлиника „Идадија"*со мерки за енергетска ефикасност

Во рамки на "Проектот за енергетска ефикасност во јавниот сектор во РСМ" кој се реализира од страна на Единицата за спроведување на проектот при Министерството за финансии со финансиска поддршка од Светска Банка, во компонентата за згради на централните власти предложена е реконструкција на ***ЈЗУ Здравствен дом - Скопје, Поликлиника „Идадија"*** со мерки за енергетска ефикасност.

Согласно *Рамката за животна средина и социјални работи* изготвена врз основа на барањата на Светска Банка беше подготвен документ "Контролна листа со мерки за управување со животна средина и социјални работи" во кој се наведени детални мерки за ублажување на влијанијата врз животната средина и социјалните работи кои ќе произлезат од планираните активности на под-проектот. Овој документ е поставен за јавен увид на официјалните веб страници на:

Министерството за финансии (Под-проекти за енергетска ефикасност во објектите на јавните здравствени установи - finance.gov.mk) и на:

Министерство за здравство: Министерство за Здравство – Министерство за Здравство (zdravstvo.gov.mk) од 25.07.2023 година.

Вашите коментари може да ги доставите во рок од 30 дена од поставување на документот на веб страна, преку пополнување на формуларот кој е достапен на следниот линк:

Формулар-за-поднесување-коментари-за-ПУЖССР-за-објекти-на-здравствени-установи-1.docx (live.com)

Јавната расправа за контролните листи од документите Планови за управување со животната средина и социјалните работи (ПУЖССР), ќе се одржи на **28.07.2023 (петок) со почеток во 11.00 часот во Министерството за финансии во Скопје (сала на 1ви кат),** со следниот дневен ред:

1. Воведен збор на Главниот координатор на Единицата за спроведување на проектот при Министерство за финансии за Проектот за енергетска ефикасност во јавниот сектор: Тања Томиќ, Главен координатор на проектот и специјалист за социјални работи - 10 минути
2. Краток осврт на активностите за реконструкција на ***ЈЗУ Здравствен дом - Скопје, Поликлиника „Идадија"*** – Јасминка Тасевска Јанковиќ, Градежен инженер консултант при ПЕЕЈС – 10 минути
3. Краток осврт на документите "План за управување со животната средина и со социјалните аспекти за проектите": Тања Томиќ, Главен координатор на проектот и специјалист за социјални работи – 20 минути
4. Дискусија

Датум на објава: 25.07.2023

Министерството за финансии
Единица за спроведување на проектот

7

MINUTES No. 3: Summary of the public disclosure process for the updated ESMF for the Additional Financing of the PSEEP prior to the Project restructuring

Introduction

The Public Sector Energy Efficiency Project (PSEEP, Parent Project) became effective on 12th of May 2021 and the existing Project Implementation Unit (PIU) structure with staff from the previous Municipal Services Improvement Project 2 (MSIP2) project within the Ministry of Finance immediately started the implementation actions. The Closing Date of the Parent Project is September 30, 2025. The newly proposed Closing Date is January 31, 2027.

Due to the sharp rise in construction costs, the financing under Component 1b of the Parent Project was insufficient for renovation of all the health buildings for which technical documentation and tender documents were prepared. Therefore, the Ministry of Finance (MoF) sought grant funding from the Western Balkans Investment Framework (WBIF) with the Bank's support. The application was approved on June 30, 2023, and the WBIF grant in the amount of €2.14 million will represent the Additional Financing (AF) to the Parent Project. The AF will support the retrofitting of two more central government health buildings: (1) University Clinic for Rehabilitation and Physical Medicine in Skopje and (2) Healthcare Center Skopje "Idadija".

ESMF Public Re-disclosure

The updated set of ESF related documents of the Parent Project aiming to reconfirm the implementation of the environmental and social safeguards for the AF as well, was prepared and submitted to the World Bank for approval: (1) Updated ESMF with AF additions, (2) ESCP that included updated commitments related to AF and (3) Updated SEP. Upon Bank's approval, they were disclosed on the MF website on February 28, 2025 (Проект за енергетска ефикасност во јавниот сектор - Министерство за Финансии - **Annex 1**) in Macedonian and English language. MF also officially submitted the final set of ESMF documents to the World Bank for disclosure in English and Macedonian language on the WB external webpage on March 4, 2025.

Due to the moderate E&S risk of the AF activities, it was decided to only disclose the E&S instruments on the MF website; e-mail communication was sent to 43 stakeholders of interest, including civil society organizations (CSOs) with information on the public disclosure process (List of stakeholders for e-mail communication is enclosed in **Annex 2**). The online consultations with stakeholders were open till March 30, 2025.

Conclusions

During the open consultation process, the PIU received only one written comment from the Development Bank of North Macedonia (DBNM), addressing three issues regarding **Annex 3**. Since all 3 issues are related to legal aspects and specific terminology regarding DBNM/EEF legal obligations in all three documents that are to be considered during the restructuring process of the Project legal documents, the PIU proposal is to initiate respective adjustments in the ESMF set of documents, once the restructuring process is legally finished. These comments do not refer to environmental or social aspects in the documents.

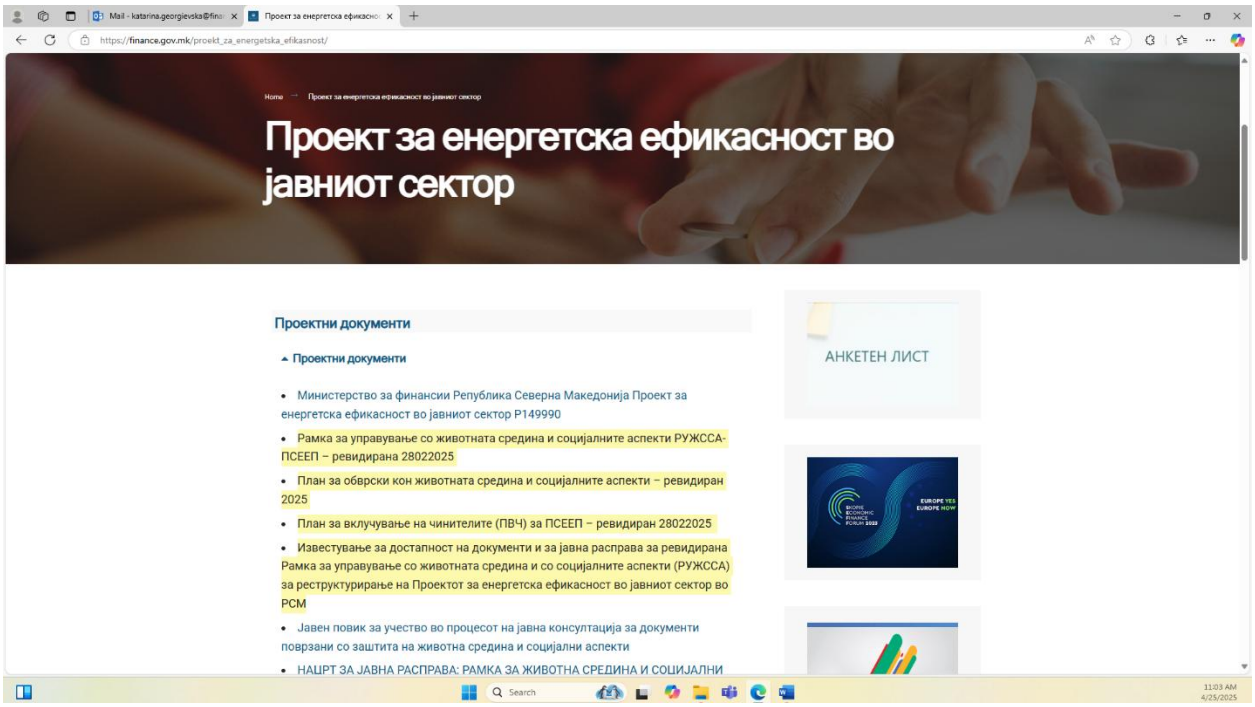
The final versions of ESMF and related documents after such adjustments are done, will be delivered to the World Bank for final review and no-objection.

Upon approval of this Minutes by the World Bank, it will be posted on the Project web-site of the MF.

Distributed materials

1. Updated Environmental and Social Management Framework (ESMF) document
2. Updated Stakeholder Engagement Plan (SEP)
3. Update Environmental and Social Commitment Plan (ESCP)

Annex 1: Public announcement launched on the Ministry of Finance web site



Република Северна Македонија
Министерство за финансии

Republika e Maqedonisë së Veriut
Ministria e Financave

- Единица за спроведување на Проектот за енергетска ефикасност во јавниот сектор -

Известување за достапност на документи за ревидирана Рамка за управување со животната средина и со социјалните аспекти (РУЖССА) за реструктурирање на Проектот за енергетска ефикасност во јавниот сектор во РСМ

Министерството за финансии на Република Северна Македонија ја известува заинтересираната јавност дека подготвува реструктурирање на Проектот за енергетска ефикасност во јавниот сектор со вредност од 25 милиони евра обезбедени со заем од Светска Банка и дополнително финансирање од 2,14 милиони евра обезбедени со грант од Western Balkans Investment Framework.

Во тој контекст, уште во раната фаза на процесот на реструктурирање и одобрување, ќе се одржат јавни консултации со засегнатите страни на следните документи кои се подготвени со цел постигнување на барањата на Светска банка за заштита на животната средина и социјалните аспекти:

- Ревидирана Рамка за управување со животна средина и социјални аспекти;
- Ревидиран План за вклучување на чинителите;
- Ревидиран План за обврски кон животната средина и социјалните аспекти.

Овие документи, заедно со формуларот за поднесување на коментари од јавноста, се поставени за јавен увид на веб страницата на Министерството за финансии (https://finance.gov.mk/proekt_za_energetska_efikasnost/) на 28.02.2025 година.

Ве покануваме со активно учество во процесот на јавна консултација за горенаведените документи за посочениот проект, во делот на заштита на животната средина и социјалните аспекти. Забелешки и/или коментари по однос на документите може да се достават во писмена форма, најдоцна до 30.03.2025 година, на следната адреса:

Министерство за финансии

Ул. Даме Груев бр. 12, 1000 Скопје

Или по е-маил на:

Владимир Грујовски (за социјалните аспекти)

E-mail: vladimir.grujovski@finance.gov.mk

Катарина Георгиевска (за аспектите од животна средина)

E-mail: katarina.georgievska@finance.gov.mk

Проект за енергетска ефикасност во јавниот сектор
Министерство за финансии

Annex 2: List of stakeholders for e-mail communication on the availability of documents and on-line consultation

	Засегната страна	Е-маил	Тел. За контакт	Име и презиме
1	Развојна банка на Северна Македонија	biljana.minoska@mbdp.com.mk aleksandar.stanoikovski@mbdp.com.mk toni.petroski@mbdp.com.mk info@mbdp.com.mk		
2	Министерство за енергетика	cabinet@energy.gov.mk valentina.stardelova@energy.gov.mk		
3	Дирекција за заштита и спасување	dzs@dzs.gov.mk		Евица Силјановска Викторија Андоновска
4	Советник на премиерот за енергетика	dame.dimitrovski@primeminister.gov.mk		
5	Архитектонски факултет	dekanat@arh.ukim.edu.mk		
6	Градежен факултет	dekan@gf.ukim.edu.mk		Тодорка Самарциоска
7	Машински факултет	contact@mf.ukim.edu.mk		
8	Факултет за електротехника и информациски технологии	deans.office@feit.ukim.edu.mk	02/3062224	
9	Министерство за животна средина и просторно планирање	infoeko@moepp.gov.mk	02/3251403	Теодора Гинчаровска
10	ЗЕЛС	contact@zels.org.mk	070/351731	
11	МАНУ, Истражувачки центар за енергетика и одржлив развој	ipi@manu.edu.mk	02/3235400	
12	Институт за земјотресно инженерство и инженерска сеизмологија (ИЗИИС)	institut@iziis.ukim.edu.mk	02/3107701	
13	Министерство за труд и социјални работи	mtsp@mtsp.gov.mk	02/3106212	
14	Министерство за здравство	contact@zdravstvo.gov.mk elena.petrovska@zdravstvo.gov.mk gamuran.ismaili@zdravstvo.gov.mk	02/3112500	
15	О2 иницијатива	o2macedonia@gmail.com		
16	МАЦЕФ	macef@macef.org.mk		
17	Порта 3	porta3@porta3.com.mk		
18	Еко-свест	info@ekosvest.com.mk	02 3217247	
19	Фронт 21/42	contact@front.org.mk	02 3122546/075433231	
20	Македонско здружение за заштита при работа	kontakt@mzzpr.org.mk slavica.s@mzzpr.org.mk	02 2774868	

21	Организација на жени/родови прашања	sozm@t-home.mk	02 3134390		
22	Комора на овластени архитекти и овластени инженери на РМакедонија	contact@komoraoai.mk			
23	Habitat for Humanity Macedonia	zkostov@habitat.org.mk info@habitat.org.mk	02 3061890		
24	Хелсиншки комитет за човекови права на Република Македонија	Uranija.Pirovska@mhc.org.mk helkom@mhc.org.mk	02 3119073		
25	КОМОРА НА МАЛ БИЗНИС - Здружение за енергетска ефикасност ЕУРЕМ МК	info@sbch.org.mk edi_sofeski@yahoo.com		1. Марјан Ненов 2. Едвард Софески 3. Жарко Трпкоски 4. Никола Ѓуровски	
26	Македонското здружение на млади правници (МЗМП)	contact@myla.org.mk	02 3220870	Бојан Трпевски	
27	Коалиција Маргини	koalicijaszpmz@gmail.com	02 32142669		
28	Цепросард	info@ceprosard.org.mk	072 253 004 Svetlana	Светлана Петровска и Гордана Пецељ	
29	Стопанска комора на Македонија	biljana@mchamber.mk	02 3244034		
30	Сојуз на стопански комори на Македонија	info@chamber.mk	02 3091440		
31	Експерти за ЖС/СА	ana.petrovska@gmail.com dblazev@timel.com.mk		Dragan Blazev	
32	EVN	jlija.kitroski@evn.mk	072 933 457	Илија Ќироски	
33	АДКОМ	adkommk@gmail.com		Лолита Стојановска	
34	Општина Центар	vesna.mihailovakukovska@centar.gov.mk		Иван Марковски Саша Максимовски	
35	Град Скопје	ivan.ivanov@skopje.gov.mk goceg@skopje.gov.mk sonja.cvetkovikjcholakova@skopje.gov.mk		Sektor za zivotna sredina Centar za energetska efikasnost	
36	ЕСМ	contact@elem.com.mk			
37	ЗД Идадија	zdskopje@zdravstvo.gov.mk			
38	УК за Рехабилитација и физикална медицина	jzuzfmr@yahoo.com zlatemehmedovic@gmail.com			
39	Зелен климатски фонд при Влада на РСМ	Sandra.andovska@gs.gov.mk		Сандра Андовска	
40	Зелен Хуман Град	zelenhumangrad@gmail.com			

41	Државен инспекторат за животна средина	d.blinkov@sei.gov.mk			Дарко Блинков
42	Македонски центар за меѓународна соработка	mcms@mcms.mk			Александар Кржаловски
43	Фонд за здравствено осигурување	info@fzo.org.mk			

Annex 3: Written submission from the Development Bank of North Macedonia (DBNM)

Прилог 1. Забелешки во врска со ревидирани документи поврзани со заштита на животна средина и социјални аспекти од спроведување на проектот "Енергетска ефикасност во јавниот сектор"

Во предлог ревидираниот документ „План за вклучување на чинителите (ПВЧ) за Проектот за енергетска ефикасност во јавниот сектор во Република Северна Македонија" на стр. 7 стои: „почетното финансирање за Фондот за енергетска ефикасност кое треба да се спроведе од страна на Развојната банка на Северна Македонија (РБСМ)". Ова не е во согласност ниту со Договорот за заем склучен помеѓу Светската банка и Република Северна Македонија, ниту во согласност со Законот за РБСМ. Имено, според Договорот за заем почетното финансирање го обезбедува Светската банка, а спроведувањето на почетното финансирање го врши Република Северна Македонија. РБСМ согласно Законот за РБСМ со Владата на РСМ склучува договор со кој се утврдуваат начинот на работењето и намената на средствата од фондовите, вклучувајќи го тука и ФЕЕ. За таа цел предвидено е склучување на Субсидијарен договор помеѓу ВРСМ и РБСМ за имплементација на почетниот капитал од 5 милиони евра во рамки на Компонентата 3 од ПЕЕЈС. Според тоа оваа реченица во документот треба да гласи: „Овој ПВЧ првпат беше ревидиран во јули 2024 година со цел да се вклучат одговорностите и улогите за ангажман на чинителите за Компонентата 3 од ПЕЕЈС, како и почетното финансирање за Фондот за енергетска ефикасност."

Во истиот документ се користи терминот „ЕСП/Сектор за Фондот за ЕЕ во РБСМ" што не е во согласност со Законот за РБСМ според кој во „РБСМ се организира Фонд за енергетска ефикансост како посебна организациона единица". Заради тоа оваа терминологија треба да се измени согласно Законот.

Во предлог ревидираниот документ „План за обврски кон животната средина и социјалните аспекти" на стр. 4 реченицата: „Фондот за енергетска ефикасност (ФЕЕ) кој треба да се формира во Развојната Банка на Северна Македонија (РБСМ) во рамките на Компонента 3 од матичниот Проект, ќе вработи и одржува квалификуван персонал за управување со ЖС/СА ризиците на подпроектите финансирани преку ФЕЕ, вклучувајќи еден специјалист за животна средина, еден социјален специјалист и еден специјалист за безбедност и здравје при работа (БЗР), сите со полно работно време." треба да се измени. Имено, ФЕЕ не може да вработува од причините што ги наведовме погоре, поврзани со правниот идентитет. РБСМ може да ангажира квалификуван персонал за управување со ЖС/СА ризиците на потпроектите финансирани преку ФЕЕ, за што од Светска банка беше изразена подготвеност овој персонал да се финансира од почетниот капитал на ФЕЕ.

Во предлог ревидираниот документ „Рамка за управување со животната средина и споцијалните аспекти" на стр. 118, во став 7.14 зборот „вработи" треба да се смени со зборот „ангажира" од причините што претходно беа наведени.