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Report No: PAD3482

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT  
ON A  
PROPOSED LOAN

IN THE AMOUNT OF EUR 25 MILLION  
(US\$ 27.4 MILLION EQUIVALENT)

TO THE  
REPUBLIC OF NORTH MACEDONIA

FOR A  
PUBLIC SECTOR ENERGY EFFICIENCY PROJECT

January 3, 2019

Energy & Extractives Global Practice  
Europe And Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective: November 30, 2019)

Currency Unit = Macedonian Denar

MKD 55.945 = US\$1

US\$0.1787 = MKD 1

EUR 1 = US\$1.1

## FISCAL YEAR

January 1 - December 31

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## ABBREVIATIONS AND ACRONYMS

BEG	Balkan Energy Group
CHP	Combined Heat and Power
CO <sub>2</sub>	Carbon dioxide
CPF	Country Partnership Framework
CSO	Civil Society Organizations
DBNM	Development Bank of North Macedonia
DH	District Heating
DPL	Development Policy Loan
EBRD	European Bank for Reconstruction and Development
EC	Energy Commission
ECA	Europe and Central Asia
EE	Energy efficiency
EE Fund	Energy Efficiency Fund
EHS	Environmental, Health and Safety
EPBD	Energy Performance in Buildings Directive (EU)
ESCO	Energy service company
ESF	Environmental and Social Framework
ESM	<i>Elektrani na Severna Makedonija (Power plants of North Macedonia)</i>
ESMF	Environmental and social management framework
ESMAP	Energy Sector Management Assistance Program
ESMP	Environmental and social management plan
ESS	Environmental and Social Standards
EU	European Union
EIEE	Economic internal rate of return
FDI	Foreign Direct Investment
FIRR	Financial internal rate of return
FM	Financial management
GEEF	Green Economy Financing Facility
GIZ	<i>Gesellschaft für Internationale Zusammenarbeit</i>
GoNM	Government of North Macedonia
kWh	Kilowatt-hours
M&V	Measurement and verification
MKD	Macedonian Denar
MoE	Ministry of Economy
MoF	Ministry of Finance
MoH	Ministry of Health
MWh	Megawatt-hours
MSIP	Municipal Services Improvement Project
NEEAP	National energy efficiency action plan

NMEA	North Macedonia Energy Agency
NPV	Net present value
OECD	Organisation for Economic Co-operation and Development
O&M	Operations and maintenance
PIU	Project implementation unit
PM	Particulate Matter
POM	Project operations manual
PPSD	Project Procurement Strategy for Development
RDF	Regional Development Fund
SEP	Sustainable Energy Project
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical assistance
tCO2	Metric tons of carbon dioxide
USAID	United States Agency for International Development
UNDP	United Nations Development Program
USS	Universal Service Supplier
WeBSEDF	Western Balkans Sustainable Energy Direct Financing Facility
ZELS	Association of Local Self-Governing Units of North Macedonia



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DATASHEET

**BASIC INFORMATION**

Country(ies)	Project Name	
North Macedonia	North Macedonia Public Sector Energy Efficiency Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P149990	Investment Project Financing	Moderate

**Financing & Implementation Modalities**

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Disbursement-linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input type="checkbox"/> Financial Intermediaries (FI)	<input type="checkbox"/> Fragile within a non-fragile Country
<input type="checkbox"/> Project-Based Guarantee	<input type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
30-Jan-2020	30-Sep-2025

Bank/IFC Collaboration

No

**Proposed Development Objective(s)**

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



**Components**

Component Name	Cost (US\$, millions)
Energy efficiency investments in the public sector	19.80
Technical assistance and implementation support	2.10
Initial capital for the proposed Energy Efficiency Fund.	5.50

**Organizations**

Borrower: North Macedonia  
 Implementing Agency: Ministry of Finance

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	27.40
<b>Total Financing</b>	27.40
<b>of which IBRD/IDA</b>	27.40
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	27.40
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**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
<b>Annual</b>	0.25	6.99	6.56	5.91	5.78	1.70	0.21
<b>Cumulative</b>	0.25	7.24	13.80	19.71	25.49	27.19	27.40

**INSTITUTIONAL DATA**



**Practice Area (Lead)**

Energy & Extractives

**Contributing Practice Areas**

Urban, Resilience and Land

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Moderate
7. Environment and Social	● Moderate
8. Stakeholders	● Low
9. Other	● Moderate
10. Overall	● Moderate

**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No





**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Not Currently Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Not Currently Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

**NOTE:** For further information regarding the World Bank’s due diligence assessment of the Project’s potential environmental and social risks and impacts, please refer to the Project’s Appraisal Environmental and Social Review Summary (ESRS).

**Legal Covenants**

Sections and Description

Schedule 2, Section I.A.1. The Borrower shall establish and thereafter maintain throughout the implementation of the Project, a Project coordination committee with a composition, resources and terms of reference satisfactory to the Bank.

Sections and Description

Schedule 2, Section I.A.2. The Borrower, through MoF, shall maintain throughout Project implementation, a Project implementing unit (PIU), with composition, resources, terms of reference, and functions acceptable to the Bank, including the responsibility to manage, coordinate, monitor and evaluate the implementation of of the Project.

Sections and Description

Schedule 2, Section I.B.1. The Borrower shall make part of the proceeds of the Loan available to the EE Fund under a subsidiary agreement between the Borrower and the EE Fund, under terms and conditions approved by the Bank



(“Subsidiary Agreement”), including, inter alia, the EE Fund’s obligation to carry out Part 3 of the Project in accordance to the POM, the Anti-Corruption Guidelines, the ESCP and the provisions of this Agreement.

**Sections and Description**

Schedule 2, Section I.C.1. The Borrower, through the PIU, shall, and shall cause the Participating Municipalities and the EE Fund, to carry out their respective parts of the Project in accordance with the provisions of a manual (the Project Operational Manual), in a manner and with contents acceptable to the Bank, including inter alia: (a) the indicators to be used in the monitoring and evaluation of the Project; (b) the procedures for Project monitoring, supervision and evaluation, including the format and content of the Project Reports; (c) the criteria for selecting Sub-projects and Participating Municipalities; (d) the model forms for the Grant Agreements and Sub-loan Agreements; and (e) the Project’s procurement and financial management procedures.

**Sections and Description**

Schedule 2, Section I.D.2. The Borrower shall make Sub-loans and Grants to Participating Municipalities to finance each Municipal Sub-project in accordance with eligibility criteria and procedures acceptable to the Bank and set forth in the POM.

**Conditions**

Type	Description
Disbursement	No withdrawals shall be made under Category 3 unless: (i) the EE Fund has been legally established on terms and in a manner acceptable to the Bank; (ii) the EE Fund’s operating procedures (EE Fund Operational Manual) have been adopted by the EE Fund’s Board of Directors on terms and in a manner acceptable to the Bank; (iii) an investment and staffing plan have been approved by the EE Fund’s Board in form and substance acceptable to the Bank; (iv) the EE Fund has hired staff in numbers and with qualifications and experience acceptable to the Bank; (v) the EE Fund’s technical, fiduciary and safeguards capacity meets the criteria set forth in the Project Operational Manual; and (vi) the Subsidiary Agreement referred to in Section I.B.1 has been executed in a manner acceptable to the Bank.



## I. STRATEGIC CONTEXT

### A. Country Context

1. **North Macedonia is a landlocked country at the heart of the Balkans, characterized by its mountainous terrain that is intersected by valleys and lowlands.** It is a transit region that sits on two of the ten Pan-European transport corridors, Corridor VIII and Corridor X. Its proximity to the European Union (EU) potentially provides the country with access to a large export market of 650 million customers. According to the last census of 2002, the population is about two million people of which 25 percent live in the capital Skopje; 40 percent reside in rural areas; and the remaining share lives in smaller urban centers.

2. **An aging population and a long tradition of emigration pose challenges to productivity.** The projected population growth is nearly zero, and estimates based on census data from destination countries (mostly Western European countries and North America) suggest that more than 500,000 citizens reside abroad, one of the largest diasporas in the world as a percentage of the total population. Considering the small size of the workforce and low birth rates, the loss of even a small number of workers affects the overall pool of skills in the economy.

3. **The resolution of the decades-long dispute with Greece over the country's name marks a turning point in North Macedonia's history as an independent nation.** On June 12, 2018, the Governments of North Macedonia and Greece signed the Prespa Agreement<sup>1</sup> aimed at resolving the prolonged name issue<sup>2</sup>. The parliament in Skopje endorsed the necessary constitutional changes introducing the new name of "Republic of North Macedonia" on January 11, 2019. The use of the new name entered into force in February 2019 after ratification of the Prespa Agreement by the Greek Parliament. In parallel, North Macedonia signed the NATO accession protocol, a process that had stalled for years due to the dispute. The Republic of North Macedonia applied for EU membership in 2004 and the European Council awarded the country candidate status in December 2005. In April 2018, the European Commission (EC) recommended the opening of negotiations with North Macedonia, but on October 17, 2019, the Council of the EU failed to reach the decision on opening negotiations with North Macedonia. The Council will revert to the issue before the EU-Western Balkans summit in Zagreb in May 2020<sup>3</sup>. Following the European Council's decision, the Prime Minister announced early elections which all political parties agreed to hold on April 12, 2020.

4. **North Macedonia has a good track record of sound macroeconomic management and business environment reforms.** The country managed to decrease public debt from 43.2 percent of GDP in 2002 to 23 percent in 2008. Prudent macroeconomic policies prior to the global financial crisis enabled it to create the space for a countercyclical fiscal policy. This fiscal stimuli for public employment, pensions, and public works helped largely mitigate the crisis impact in 2008–09 and again in 2011–12. To spur investment, the Government spent more on road and civil infrastructure and abolished the profit tax on reinvested earnings for 2009 to 2014. It lengthened the list of goods given preferential tax rates; exempted tax for foreign direct investment (FDI) in technological industrial development zones; and supported consumption by ad hoc pension hikes, a reduction of

<sup>1</sup> The text of the agreement can be found at <https://vlada.mk/sites/default/files/dokumenti/spogodba-en.pdf>

<sup>2</sup> The country became a member of the United Nations in 1993, but because of a dispute with Greece over the use of the name Macedonia, it was admitted under the provisional description of "the former Yugoslav Republic of Macedonia."

<sup>3</sup> Council of European Union, <https://www.consilium.europa.eu/en/meetings/european-council/2019/10/17-18/>



social insurance contribution rates, and employment subsidy schemes. Monetary policy was also accommodative. The National Bank reduced interest rates to encourage credit growth and avoid deposit withdrawals. These measures helped the economy to grow at an average of 2.3 percent from 2012 to 2017, despite the political uncertainty during 2015 to 2017 that adversely affected investors' expectations and led to a temporary recession during 2017. Yet, they also exhausted fiscal space since it built up debt to above 48 percent of GDP by 2018.

5. **Growth and fiscal measures helped increase employment and reduce poverty after 2009.** The employment rate increased by 10 percentage points to above 45 percent in 2018. Job creation was supported mainly by public spending for large-scale public projects, new active labor market policies and Government support for employment in Special Economic Zones. Growth has also been pro-poor. Between 2009 and 2018, poverty fell by about 14 percentage points from 35 to 21 percent.<sup>4</sup> It is estimated that during these nine years, 287,000 people were lifted out of poverty. However, unemployment is still high at 17.5 percent by June 2019, and labor-force participation is low, especially for those younger than 25 and older than 55, and for women. In addition, poverty remains high in rural areas, and the reduction in poverty since 2009 has not been sufficient to close rural-urban gaps in living conditions. While the urban poverty headcount is 17 percent the rural poverty headcount remains at nearly 30 percent.

6. **Despite the country's relatively moderate public and publicly guaranteed (PPG) debt level, macroeconomic risks are significant due to: (i) a possible decline in growth related to deterioration in the external - prospects and geopolitical tensions in the region and (ii) possible delays in the implementation of consolidation measures, and accumulation of new contingent liabilities.** With the EU, the country's main trading partner, slower than expected EU growth could dampen recovery of North Macedonia's economy, straining public finances and negatively affecting the fiscal and debt consolidation agenda. Lower than expected economic growth would make it more difficult to sustain the current level of agricultural subsidies. Given the increasing share of US\$-denominated public debt (at 9 percent of total), any appreciation of the US dollar would worsen debt metrics and strain public finances. Delays in undertaking consolidation measures and renewed accumulation of arrears and contingent liabilities – including during the pre-electoral season - could worsen refinancing options as a large part of public debt comes due in 2020–21. Support provided by all international partners helps ensure that the authorities remain committed to their ambitious reform program and actively move forward.

7. **The World Bank has been a partner of choice of the Republic of North Macedonia for over twenty-five years.** The current Country Partnership Framework (CPF) for the FY19-23 period (Report No. 135030-MK) was discussed on April 18, 2019. Its preparation was informed by broad consultations with various stakeholders, which included members of parliament, government institutions, opposition representatives, NGOs, academia and the private sector. The result of the consultations is a CPF which aims to support North Macedonia's ability to achieve faster, inclusive, and sustainable growth and provide its citizens with greater opportunities for a better life. The CPF is organized around three focus areas that will help North Macedonia (i) improve the environment for a dynamic private sector to enhance export-led growth; (ii) strengthen human capital for inclusive development; and (iii) build sustainability. Prepared after a prolonged period of political turmoil in the country when the World Bank engagement was compromised, the new CPF envisages an ambitious lending program in FY20 to address

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<sup>4</sup> Poverty is measured as absolute poverty using the poverty line for upper-middle income countries (UMIC), estimated at \$5.5/day in 2011 purchasing power parity (PPP)— the cost in UMIC countries of satisfying a minimum caloric requirement and typical non-food consumption.



public finance challenges, modernize agriculture, improve energy efficiency of public buildings, and improve connectivity by investing in local roads.

8. **North Macedonia is highly vulnerable to natural hazards, including floods, droughts, forest fires, landslides, earthquakes and extreme temperatures that are amplified by climate change.** The flood risk is higher than in any other country in the Europe and Central Asia region. A major flood disaster could derail economic growth, affect critical infrastructure, cause losses in agricultural incomes, and disrupt rural livelihoods. Agriculture is the most vulnerable sector to climate change. The annual damage to critical infrastructure from climate-related hazards is expected to double by 2020, and by 2080 it could be more than five times higher. A major flood or earthquake disaster could derail economic growth, affect critical infrastructure, cause losses in agricultural incomes, and disrupt rural livelihoods (North Macedonia Systematic Country Diagnostic, World Bank 2018). As temperatures rise and precipitation becomes more variable, droughts will particularly affect southern and eastern part of the country and jeopardize agricultural production and water quality in these regions. Despite the relatively small geographic area of North Macedonia, the country's climate is diverse, ranging from alpine in the west and north-west of the country to Mediterranean in the southern part of the country, and is characterized by cold winters and hot summers, as well as variable precipitation. Projections show rising temperatures and more extreme events. Projected increase in annual average temperature of 1.0 – 3.3°C by 2050, with increases expected to be higher in summer months and an increase in number of hot days, hot nights, and heat waves.

## B. Sectoral and Institutional Context

9. **North Macedonian power sector heavily depends on inefficient and outdated coal-fired generation operated by the state-owned power generation company Elektrani na Severna Makedonija (ESM, formerly ELEM).** About 40 percent of electricity supply in North Macedonia comes from a 40-year old lignite-fired power plant Bitola. In recent years, renewable energy generation (small hydro, wind, solar and biogas) has grown from about 4 percent in 2014 to 7.4 percent in 2016, driven by the Government of North Macedonia's (GoNM's) support mechanisms through feed-in tariffs for attracting investment in renewable energy. Also, conventional hydropower generation supplies up to 20 percent of electricity demand depending on the hydrological conditions, which are quite volatile in North Macedonia. Gas-fired combined heat and power (CHP) plants have increased their market share from 2.4 percent in 2014 up to 7.4 percent in 2016. Imports meet the rest of power demand and vary depending on hydrological conditions and regional market situation, but typically account for about one third of electricity supply in the country. In 2016, transmission losses stood at 1.6 percent and distribution losses at 14.7 percent. Most of the power generation for the regulated market came from the state-owned company ESM. But obligations under the Energy Community Treaty required North Macedonia to transpose EU directives related to the internal electricity and gas market. This legislation, known as EU's Third Energy Package, aims to further open energy markets for competition and deregulate electricity pricing. The new Energy Law, which was adopted in May 2018, introduced market competition, as required by the Third Energy Package, with the opening of the electricity supply market for all customers in the country. This market opening became effective on January 2019 and is expected to impact price competition in the electricity supply market after price deregulation for the residential consumers and small businesses. However, the wholesale electricity supply of state-owned ESM to the Universal Service Supplier (USS) will gradually be deregulated over the course of seven years.



10. **The Government is concerned about the country's growing reliance on imported fossil fuels and energy inefficiency.** Fossil fuels account for more than 80% of energy consumption in North Macedonia, and an increasing amount of this is imported, including all liquid fuel and natural gas, which makes the sector the top contributor to the country's total greenhouse gas (GHG) emissions. In the absence of investment in new energy sources, this trend will continue as demand grows while domestic production erodes. GoNM is committed to reversing this trend and strengthening energy security. Greater energy efficiency is the first step in this direction as the "first fuel," as North Macedonia consumes limited energy per capita (about 40% of the EU) but a high amount per unit of GDP. Its energy intensity is 3.5 times higher and its carbon intensity is four times higher than the average of the Organization for Economic Cooperation and Development (OECD) countries. The Government also wants to exploit renewable energy sources, starting with hydropower (of some 5,500 GWh of clean hydropower ready to be exploited, only 27% has been tapped), but also solar, wind, and biomass. Other goals include increasing the use of natural gas to reduce the use of electricity in heating buildings.

11. **Heating of buildings is not sustainable.** Most of the heating systems in buildings are largely inefficient. Heating is typically provided by three sources: electricity (25%), biomass (firewood) (64%) and district heating (DH) (9%, Skopje only). Heating with electricity is highly inefficient and exacerbates power supply challenges creating the need for costly electricity imports, especially during the heating (winter) season. The high consumption of unmanaged and unregulated firewood is also unsustainable and can lead to forest degradation, giving rise to adverse environmental, economic and health impacts. The Skopje DH system was operated by Toplifikacija for decades with a fairly old and inefficient network. In 2012, the regulator forfeited their heat supply license which was acquired by a newly formed shell company, the Balkan Energy Group (BEG). Today, there are three companies that manage the district heating system in Skopje. BEG manages the largest part of the heating system in Skopje with total heat generation capacity of 443MW. The two other heat generation companies in Skopje are Energetika, owned by ESM AD with 96MW of heat generation capacity and Skopje Sever AD with 46MW heat generation capacity. The total heat generation capacity for the city of Skopje is about 620MW entirely based on natural gas-fired Combined Heat and Power Plants (CHPs). Despite investments in the rehabilitation of the district heating distribution network in Skopje, it still has about 12% technical losses. About 75% of the district heating system consumption in Skopje comes from residential customers, while the other 25% comes from public and commercial customers. BEG plans to invest in rehabilitation and expansion of the network but the expansion is still not defined. The company is facing challenges with keeping existing customers and acquiring new ones as it faces competition from alternative heating sources such as natural gas and thermal pumps.

12. **GoNM has already begun to tap its vast potential for energy efficiency and plans further investments in the public sector. As a contracting party of the Energy Community Treaty,** the GoNM has committed to reduce energy use by 12% (about 200 ktoe) by 2018 in its 2020 Energy Efficiency Strategy (based on a 2010 baseline) requiring some €406 million of investments, more than the 9% required under the Energy Community Treaty's National Energy Efficiency Action Plans (NEEAPs) for the other aspiring Western Balkan EU candidate countries. Buildings, which consume about 39 percent of the energy based on the 2nd NEEAP, have been identified in the country as a major priority, with estimates of savings from 20-40%. The public sector has the greatest potential, with about 35-40% savings, mostly in the health and education sectors. During the initial NEEAP reporting period (2010-2012), North Macedonia fell slightly short of its 4% target, achieving about 2.6% (or 41.9 ktoe). Most of these savings came from voluntary programs in the industrial (52%), transport (19%) and residential (17%) sectors. During the second NEEAP reporting period (2013-2015) North Macedonia managed to achieve energy efficiency



savings of 4.95% (80.97 ktoe), which was slightly above the target of 4.89% (80.06 ktoe). For the third period up to 2018, the Government has revised the cumulative target to 9.09% or 148.72 ktoe. As part of the third NEEAP, the Government planned to develop a national program for energy efficiency in public buildings that would be financed through an Energy Efficiency Fund, and included plans for improving efficiency of street lighting. According to the latest EU's enlargement report for North Macedonia, the country is on track to meet its mandatory targets after having adopted its third NEEAP, which includes €13 million investments in public buildings financed through Ministry of Finance, Ministry of Economy and EE Fund. The EU Energy Efficiency Directive requires its member states to ensure that 3% of the total floor area owned and occupied by the central government is renovated each year. The proposed Energy Efficiency Law in North Macedonia, transposing the EU EE directive as required by the Energy Community Secretariat, has specific requirements for annual renovation of public buildings for energy efficiency (1% of total floor area). The proposed project will support North Macedonia to meet its obligations to Energy Community Treaty as transposed through the EE Law.

13. **The government is now finalizing a comprehensive Law on Energy Efficiency, which transposes the EU directive on energy efficiency.** A draft Law on Energy Efficiency was prepared in 2019 and was approved by the Government on October 8th, 2019 and submitted to Parliament for consideration. The draft includes provisions related to the overall institutional set-up and responsibilities, obligations (e.g., for utilities, large consumers, building owners, equipment manufacturers, public bodies and municipalities), funding and penalties, data provisions, energy audits and managers, energy service companies (ESCOs), and training. The set-up of an independent Energy Efficiency Fund is also envisioned to support the achievement of national EE targets, etc. which will be determined through a separate Law. On October 22<sup>nd</sup>, 2019, the GoNM decided that the EE Fund will be established within the Development Bank of North Macedonia (DBNM) and has looked to the Bank and EU to help capitalize its start-up.

14. **Despite such a potential for energy efficiency in buildings, numerous policy and market barriers persist.** Such constraints include:

(a) *Energy pricing:*

- (i) **Electricity.** Until end-2018, only about half of the electricity market was liberalized, mostly industrial and large commercial consumers. The residential customers and small businesses were still supplied through a regulated market using fixed regulated prices, which were lower than open market prices. As part of the market reforms introducing the Third Energy Package, starting in 2019, ESM is limited to provide at most 80 percent of the total annual needs of electricity to the USS, with a gradual reduction to 30 percent by 2025. The reform should, over the medium term, level the playing field among electricity suppliers and improve price competition.
- (ii) **Solid fuels (coal and firewood).** Unlike a few other countries in the region, North Macedonia does not apply a royalty tax on coal (lignite), which is a major source of the country's power generation. In addition, firewood, as the prevalent fuel used for space heating in schools (70% of primary schools), is often informally logged and, thus, prices do not reflect its true cost.
- (iii) **District heating.** For District Heating (DH), BEG which serves the greater Skopje area charges both a fixed cost based on the heat capacity contracted 931 MKD/kW (\$17 per kW) for residential customers, and 1,303 MKD/kW (\$24.2 per kW) for nonresidential customers -and a variable element based on the heat energy consumed at the metering point 1.83 MKD/kWh (\$0.034 per kWh) for residential and 2.57 MKD/kWh (\$0.048 per kWh) for non-residential customers as of February 2019. DH tariffs are cross-



subsidized and some public buildings such as primary schools are benefiting from a subsidized tariff. Furthermore, district heating is only available in the city of Skopje, and it is designed based on the old vertical piping system that doesn't allow for apartment-level or floor-level metering, thus billing is calculated based on the heated floor area and not based on consumption. Switching from heated floor area billing to consumption-based billing is a precondition to incentivize energy savings

- (b) *Access to financing.* Central government buildings typically have very limited budgetary provisions for capital improvements, if any, and usually are not allowed to borrow. Municipalities have to undergo the fiscal decentralization process and, even then, have stringent debt limitations which many have already reached. Few have formal credit ratings. Thus, while energy efficiency investments are able to pay for themselves through cost savings, traditional debt financing has been difficult to mobilize for the public sector<sup>5</sup>. In addition, commercial banks have shied away from lending to municipalities that may not have collateral and rely predominantly on national budget transfers.
- (c) *Limited data and low comfort levels.* Proper energy accounting has not yet been formalized in the public sector. Baseline energy use is not systematically collected and there is often no data about prevailing indoor temperatures (which indicate the amount of heat the baseline energy provides, also known as comfort levels). This makes it very difficult to estimate the energy savings of typical measures, which then make it hard to project energy cost savings which would eventually repay the loan. Building energy consumption databases and building certificate schemes remain to be fully implemented.
- (d) *Misaligned incentives and regulatory barriers.* Public agencies rarely have incentives to save energy costs, since lowering costs in one year generally lead to lower budget provisions in subsequent years. This inability to retain budgetary savings also makes it impossible for public agencies to repay lenders for such investments. Other restrictions on multiyear obligations, public procurement, borrowing, etc. hinder such projects from being realized.
- (e) *Technical capacity.* While energy is an important expenditure, most public agencies and municipalities lack the technical and project management capacity to develop and finance such projects on their own. Few ESCOs exist and most public entities lack the knowledge of how to organize and contract an ESCO. Banks and other financiers often lack performance data and risk profiles on energy efficiency improvements. Behavioral inertia also exists.

15. **The Bank has been active in sustainable development in North Macedonia.** The Bank completed the GEF Sustainable Energy Project (SEP) in 2013 and, based on the experiences and lessons from this project and within the region, are developing this operation. The Bank is also financing an ongoing Municipal Services Improvement Project (MSIP) 1 and 2, initiated in 2009 with additional financing provided in 2012 (total US\$75 million IBRD loan under MSIP 1 and US\$28 million IBRD loan under MSIP 2), which provides local financing for municipal infrastructure and other public investments. The reach of MSIP is substantial, with over half of the 84 municipalities participating so far. Most investments have been in typical infrastructure—rehabilitation of local

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<sup>5</sup> The Bank's Urban team completed a study analyzing the financial situation of local government in North Macedonia and proposes options for reform. While the study did not examine the current system for planning and financing capital investment, the available evidence nevertheless suggests that municipal investment choices are overly influenced by the priorities of funding agencies, i.e., Government sectoral ministries and external donors. Local governments' abilities to prioritize the capital investments they finance from their own revenues is weak. To address these problems, the study recommended that the Government could begin by evaluating the various options for reform, including the consolidation of central government grants, ramping up the Regional Development Fund (RDF), or creating a municipal development fund.





roads, expansion of water supply, machines to facilitate solid waste collection/disposal, etc.—but about 36 investments were made to support energy efficiency of municipal infrastructure: 13 buildings retrofitted, 15 buildings were constructed/expanded with energy efficiency standards and eight street lighting systems were equipped with efficient lighting technologies. The Bank, with ESMAP (Energy Sector Management Assistance Program) support, also provided technical assistance (TA) to several municipalities to improve their municipal energy efficiency programs and prepared prefeasibility studies for such projects, mostly in the street lighting and water sectors, for financing under MSIP. Regional ESMAP work has also helped build interest within the Western Balkan countries for more sustainable energy efficiency schemes. The Bank's 2018 *Western Balkans: Directions for the Energy Sector* concluded that countries in Western Balkans will face challenges tapping to further savings potential of market segments that are more difficult to reach, particularly public and residential buildings. The report also recommended that sustainable financing models and delivery mechanisms, based on revolving funds and eventually commercial financing, are critical to scale up EE investments in unserved markets such as public buildings.

**16. There have been a few government-run investment programs in the energy efficiency sector with limited impact so far.** In 2017 and 2018, the Government implemented a program to support household investments in renewable energy and energy efficiency. This government program, called the *Program for Renewable Energy Sources and Encouraging Energy Efficiency in Households*, provided subsidies for installing energy efficiency measures in the residential sector. In 2018, the total allocated amount of €700,000 from the government budget was used to subsidize 6,538 solar water heaters, 2,350 window replacements and installation of 642 wood pellet boilers. In October 2019, the GoNM announced that it would use €10 million from the state-owned power generation company ESM to provide subsidies for households for purchasing efficient heat pumps as replacements for inefficient stoves and boilers based on firewood, coal, and oil. The subsidy will be available for households in the cities with the highest air pollution in the country, including Bitola, Kicevo, Tetovo, and Skopje. Subsidies for the procurement of high-efficiency heat pumps will be provided to 5,200 households in Skopje, 2,500 households in Bitola, 1,500 households in Tetovo, and 800 households in Kičevo. In early 2020, the Bank plans to launch a new regional study to assess the sustainability of heating in the building sector, with a special focus on the residential sector. This study will assess viable options to replace inefficient and highly polluting heating systems that are currently being used in Bosnia and Herzegovina, Kosovo and North Macedonia.

**17. Mobilizing finance for development remains a priority for energy efficiency in the public sector.** Leveraging the private sector and optimizing the use of scarce public resources is a critical element for a scaled-up and sustainable program. As noted above, however, there are a range of policy, market, financing and knowledge barriers that will need to be addressed by an initial phase of the program supported with public funds. The proposed policy support and other technical assistance activities (e.g., set-up of Energy Efficiency Fund, training of market actors) will be important elements to improve the enabling environment for the eventual introduction of more sustainable financing mechanisms to serve the full public sector (at both the central and municipal levels). This Project which will rely on sub-loans to municipalities, and the proposed Energy Efficiency Fund which will introduce 'a pay from savings mechanism', will establish critical precedents to help the government transition away from grant financing to more commercial financing. Eventually, the goal will be to crowd in commercial financing from local banks and private investment through energy service companies (ESCOs) in order to develop and sustain a fully market-based program. The focus on public buildings follows global best practice, as it allows the government to 'lead by example' and test and develop implementation mechanisms, financing, etc. that can then be deployed and scaled-up to other sectors.



## C. Relevance to Higher Level Objectives

18. **The project is aligned with the World Bank Group Country Partnership Framework 2019 - 2023 in North Macedonia which aims to support the country's ability to achieve faster, inclusive, and sustainable growth and provide its citizens with greater opportunities for a better life.** The CPF is organized around three focus areas that will help North Macedonia improve the environment for a dynamic private sector to enhance export-led growth, strengthen human capital for inclusive development, and build sustainability. The three focus areas include, (i) Export-Led Growth: Improve the Environment for a Competitive Private Sector, (ii) Inclusive Growth: Expand Skills and Opportunities for the Most Vulnerable and (iii) Sustainable Growth: Enhance Sustainability and Build Resilience to Shocks. The Project will contribute to Focus Area III – Sustainable Growth: Enhance Sustainability and Build Resilience to Shocks, and CPF Objective 5 – Accelerate Transition to a More Sustainable Energy Mix. Investments in energy efficiency will also improve competitiveness contributing to Focus Area I. Finally, the project will contribute to Focus Area II by enhancing the quality of public services and skills development.

19. **Energy efficiency investments in public buildings contribute to reducing GHG emission and local air pollution.** Reducing energy consumption for heating based on natural gas (including district heating), coal or electricity contributes to associated reduction in CO<sub>2</sub> emissions. Since the electricity supply in North Macedonia is dominated by coal-fired generation (61% of domestic generation in 2017), reducing electricity consumption has the greatest impact CO<sub>2</sub> reduction potential per energy unit avoided. North Macedonia is a party of the UN Framework Convention on Climate Change (UNFCCC), but as a non-Annex I country, it does not have quantified commitments for reducing GHG emissions. However, North Macedonia has the status of a candidate country for EU membership, having thus to adhere to the EU climate and Energy Policy, which is implemented through the Energy Community Secretariat. The Project is estimated to reduce 234,919 tCO<sub>2</sub> for the lifetime of the energy efficiency investments. EE investments in public buildings can also reduce local emissions, particularly particulate matter (PM), which is one of the key air pollutants in North Macedonia. Heating based on solid fuels is one of the major contributors to local air pollution in the country. Energy efficiency measures that can contribute to reducing air pollution may include: (i) replacing inefficient heating systems based on solid fuels (firewood and coal) to more efficient and/or cleaner fuels such as heat pumps, natural gas boilers, district heating, or wood pellets, and (ii) building envelope measures (e.g., insulation, windows) to reduce heating demand.

20. **This Project will develop synergies with other projects planned under the CPF particularly with the upcoming education project.** The World Bank has several other planned projects in the municipal infrastructure, including upgrade of local roads, upgrade of local schools and a digital project providing high speed broad band coverage to rural areas. The Project will particularly seek synergies with investments in education to see if energy efficiency investments under the Project can complement planned internal renovations. As a part of the Project's Coordination Committee, the Ministry of Education will be able to coordinate complementary investments in school buildings.

## II. PROJECT DESCRIPTION

### A. Project Development Objective

#### PDO Statement

21. The Project Development Objectives are to: (i) reduce energy consumption in the public sector; and (ii) support the development and implementation of a sustainable financing mechanism for energy efficiency



in the public sector.

### PDO Level Indicators

22. Progress towards the PDO would be monitored according to the following indicators: (a) projected lifetime energy savings from EE investments in the public sector (MJ); and (b) establishment and operationalization of an EE Fund.

### B. Project Components

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

24. **Component 1. Energy efficiency investments in the public sector (€18 million IBRD).** Under this Component, EE and some renewable energy (RE) investments (“subprojects”) would be undertaken in public facilities (covering municipal buildings, central government buildings and public lighting,). 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. This component would support preparation of the energy audits and technical designs, technical audits, construction supervision, final commissioning/energy performance certificates (all to be procured by the PIU), as well as renovation works for municipal buildings (procured by the municipalities) and renovation of central government buildings (health buildings) to be procured directly by PIU. 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.

- (a) *Component 1(a) EE Investments in Municipal Sector (Est. cost €10.5 million).* Municipalities would apply for financing on a rolling basis with proposals for the renovation of building under their management and public lighting systems. Financing would be provided through sub-loan agreements currently utilized under the ongoing Municipal Services Improvement Project (MSIP). Sub-loans would generally be repaid over a 7-12-year period, with a 20% grant portion. The Project would seek to support cost-effective renovations of eligible municipal buildings and municipal-managed public lighting<sup>6</sup>. Proposed building eligibility criteria would include: (i) ownership by (or assigned to) the local government (excluding municipally-owned enterprises, private buildings with municipal tenants)<sup>7</sup>; (ii) must be structurally and seismically safe<sup>8</sup>, not had a full EE renovation in the past 10 years, and be at least 5 years old; and (iii) no plans for office moves, closure, building demolition or privatization; and (iv) sufficient utilization rates (e.g., at least 60%<sup>9</sup> of the designed capacity of the building is being used). The PIU needs to make sure that selected buildings meet the eligibility criteria and structural safety requirement before energy audits are contracted. Eligible municipalities must have sufficient debt capacity to borrow for the proposed subproject. Proposed eligible investments would include building envelope measures (roofs/wall insulation, windows, doors), heating/cooling systems, water heating,

<sup>6</sup> Public lighting would include street lighting, traffic lights, lighting of parking lots, parks and signage.

<sup>7</sup> However, some public buildings related to defense or police (e.g., prisons) may not be eligible.

<sup>8</sup> A regulation was put in place after the Skopje earthquake in 1963 and with periodic updates (the last major one in 1987), and all buildings constructed after about 1987 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, but the building is determined to have low risk of seismic safety concerns, 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. Details are further elaborated in the OM.

<sup>9</sup> Percentage of the design capacity being used would be defined as the percent of floor area used.



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.) provided that the overall subproject could still have a simple payback period under 12-15 years. 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 a minimum savings of 20%, an investment cost of at least €50,000 but not more than €750,000, and a maximum simple payback period of 12-15 years. Procedures will be detailed in the Project Operations Manual (POM) which is approved by the Bank.

- (b) *Component 1b. EE Investments in Central Government Buildings (€5 million).* Some of the public buildings that provide public services at the local level are managed by the central government, and this includes health centers and regional hospitals. Under this Component, energy efficiency and renewable energy investments would be undertaken in public buildings managed by the central government focusing on the health sector. The Project would support preparation of energy audits, technical design, renovation works, construction supervision and all services and works would be procured directly by the PIU. The Ministry of Health (MOH) has developed plans for the buildings to be renovated. It was agreed the component will focus on primary healthcare clinics (outpatient) with prioritization on those that are older, more dilapidated and have higher energy use. The MOH team also proposed to renovate the Institute for Physical Medicine and Rehabilitation in Skopje. A list of 36 primary health care clinics (*health homes*) has been identified and will be the focus of the first years of implementation.
- (c) *Component 1c. Technical studies to support investments (€2.5 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.

25. **Component 2. Technical assistance and implementation support (€1.94 million IBRD).** 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 on October 8. It is expected to be enacted before the end of 2019. This, along with various transposed EU directives and other secondary legislation and regulations provide a strong basis for EE in the public sector. However, additional efforts will be required to develop the supporting bylaws, additional strategies and plans, and the necessary bylaws or regulation to establish the proposed EE Fund and amendment of the Law of the Development Bank of North Macedonia. Specific proposed activities would include:

- a) *Support to develop the EE Fund.* Work under this activity would include: (i) the drafting of amendments to the legal framework required for the establishment of the EE Fund including the governance structure; (ii) develop the financing modalities (e.g., loans, energy service agreements, budget capture, debt financing, guarantees, partial grants, etc.), services to be provided, target markets, financial projections and fee structure of the Fund to ensure its sustainability; (iii) develop the detailed organizational structure, management and staffing plans; (iv) development of financing agreements and other legal documents/templates to support the EE Fund's operation; (v) development of the administrative and operational procedures; (vi) develop a 3-5-year business plan; and (vi) a staffing recruitment plan including TORs for key positions.
- b) *TA for additional secondary EE legislation.* Provisions of TA will also be provided to MOE to support broader EE secondary legislation and support to further EE market development (to be determined once



the EE Law has been adopted but may include updates of EE-related rulebooks for buildings and building performance certificates, support for homeowner association legislation to allow for commercial borrowing and signing of contracts, development of the long-term building renovation strategy (under the revised Energy Performance in Building Directive), regulations for net-metering for rooftop solar PV installations on public and residential buildings, etc.);

- c) *Training of market actors.* Support will be provided for targeted information campaigns and training of EE market actors (e.g., energy auditors, design firms, construction companies, commissioning inspectors) to ensure adequate demand for municipal applications, technical competencies and learning lessons from early projects as well as sensitizing of DBNM, commercial banks, ESCOs, etc.; and
- d) *Project implementation support.* Support for the implementation of the Project including costs of the PIU.

26. **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, initial audits/designs and investments. The funds would not be used until the EE Fund is legally established, a set of operating procedures (operations manual) have 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.

27. It is expected that investments under Components 1 and 2 will help to stimulate the energy efficiency markets for public buildings and street lighting and demonstrate that the energy cost savings and improvements in service quality (i.e., improved heating, better lighting, increased safety) will enable the investment costs to be repaid under Component 1. In parallel, TA under Component 2 would work to establish the proposed EE Fund. Once the EE Fund is established, Component 3 would allow the Fund to initiate its operations to serve as the main implementing arm for public sector energy efficiency investments going forward. Transitional arrangement will be agreed with Government of North Macedonia if there are remaining funds under component 1a to ensure that municipal projects financed under MoF do not compete with the new financing mechanism provided by the fund. Typical trajectories of such funds show that the first 3-5 years would focus on ensuring the fund's staffing, pipeline and financing modalities are successful; the subsequent period (i.e., 5-10 years) would seek to recapitalize the fund, scale-up and leveraging more commercial financing. The Fund could eventually serve other sectors not served by local commercial banks, such as multifamily apartment buildings, single-family homes and other market segments, on a more sustainable and scaled-up basis.

### C. Project Beneficiaries

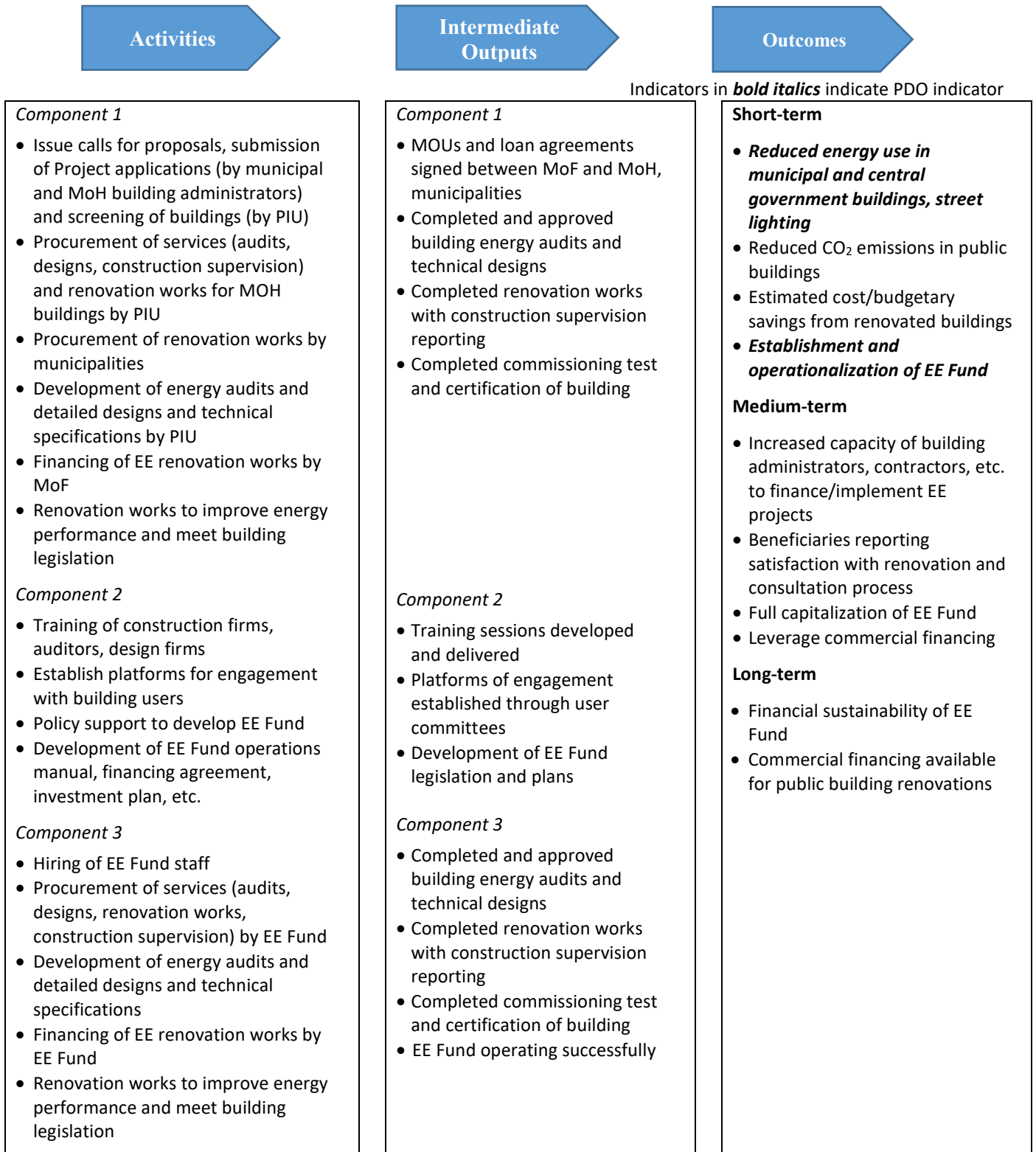
28. The immediate beneficiaries in the Project will be the users and employees of the public buildings renovated due to improved building conditions, improved comfort levels, lower energy bills. Other beneficiaries would include equipment suppliers, construction and engineering firms and other service providers. Citizens (tax payers) will also benefit from more efficient use of energy and public budgets.

### D. Results Chain

29. The Project's results chain is outlined in Figure 1, below. The Project Development Objectives are to: (i) reduce energy consumption in the public sector; and (ii) support the establishment and operationalization of a sustainable financing mechanism for the public sector.



Figure 1. Project Results Chain





## E. Rationale for Bank Involvement and Role of Partners

30. **The development of commercial financing for energy efficiency in the public sector has been a major challenge in all Western Balkan countries, including North Macedonia.** High perceived risks, the lack of consensus on suitable financing and implementation models, an underdeveloped ESCO market, lack of capacity in public agencies, procurement and budgeting restrictions, etc. have all resulted in limited investments to date. The infusion of public financing is deemed necessary to develop, test and demonstrate the viability and impacts of energy efficiency investments in central and municipal government facilities as a first step. The Project would demonstrate typical investments, measures, returns on investment, actual energy savings, refine the subproject cycle of energy audits through M&V, develop standard documents, demonstrate the actual budgetary savings emanating from investments, build awareness among public building administrators, etc. Parallel policy and regulatory enhancements will seek to further reinforce such investments while developing the legal and operational framework for the proposed EE Fund. As the market develops, additional experiences are gained, and risks better understood, the EE Fund and eventually other financiers would be better able to access and deploy more commercial financing for public sector investments, with reduced need for public financing in the medium- to long-term.

31. **Several other donors are active in energy efficiency<sup>10</sup>.** EBRD has a regional financing program, the Western Balkans Sustainable Energy Direct Financing Facility (WeBSEDF), which includes a credit line facility open to local SMEs or project developers to implement energy efficiency projects in municipalities through ESCO contracts. In 2017, EBRD launched the Green Economy Financing Facility (GEFF) in North Macedonia that will provide loans to households through local commercial banks for energy efficiency investments in residential buildings. Unfortunately, to date, no municipal energy efficiency investments have been financed through commercial sources. KfW financed six municipal water supply rehabilitation programs and a new municipal district heating system in Bitola. USAID, the Swiss Government, GiZ, UNDP and others have also implemented some TA programs, focused on clean energy and energy efficiency, sustainable cities, ESCO development, etc., but these models have not yet been able to successfully demonstrate themselves. The European Commission (EC) is supporting a range of municipal infrastructure investments and some energy efficiency grants, mostly through its Instrument for Pre-Accession Assistance (IPA) mechanism and is interested in providing increased support for municipal service delivery and energy efficiency in cooperation with the Bank. The EC has expressed interest in supporting energy efficiency investments through the proposed Energy Efficiency Fund, which would be established with the support of this Project. Ongoing coordination of efforts and partnering to leverage policy reforms and investment financing are underway. Habitat for Humanity (U.S. NGO) has supported about 72 multifamily apartment buildings with TA and financing from an approximately €2 million revolving fund they have established and are interested in scaling it up. Efforts will be made to coordinate with other IFIs and donors to strengthen the capacity and market for the EE Fund, and avoid competing programs and financing modalities.

## F. Lessons Learned and Reflected in the Project Design

32. The design of the Project draws upon the previous experience of the Macedonia Sustainable Energy Project (2006) and the vast experience with building renovation programs in the broader Europe and Central Asia (ECA) region, including Armenia EE (2012), Bosnia and Herzegovina EE (2014), Kazakhstan EE (2013), Kosovo EE & Renewable Energy (2014), Montenegro EE 1 and 2 (2009, 2018) and Serbia Enhancing Infrastructure Efficiency and Sustainability Program for Results (2017). Furthermore, the project draws upon the experience of the MSIP that

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<sup>10</sup> In addition to the IBRD loan, efforts will continue to mobilize/secure additional concessional financing (e.g. climate finance) to further enhance EE efforts and mitigate future energy demand increases, e.g. for cooling.



is currently under implementation. These lessons and how they have been reflected in the Project design are summarized below:

(a) *Strong implementing agencies are critical to early success and demonstration.* The need for implementing agencies and appointed PIU staff to be experienced in the building renovation sector and empowered to make decisions has been incorporated into the Project design. MoF's MSIP PIU has significant experience with World Bank-financed projects and some experience with energy efficiency and renewable energy investments.

(b) *Need to develop appropriate demand, financing and business models to sustain investments.* Demonstration of building renovations alone is not sufficient to ensure that continued investment and implementation will be done beyond the Project period and, thus, the development of a plan for continued marketing, financing and implementation of building renovations beyond the Project with scalable and sustainable financing schemes is critical. The Project includes provisions for TA to support subproject pipeline building, legislation for the EE Fund, initial funding, operating procedures, etc. within the Project's implementation phase.

(c) *Ongoing policy dialogue and targeted capacity building are important.* Sustainability also relies on Project partners being able to continue with various practices beyond the Project and expand with more sustainable financing models. Thus, the Project will need to actively involve the Ministry of Economy (in charge of the energy sector) on the second component related to the establishment of an EE Fund and furthering energy efficiency-related policies and plans.

(d) *Proper monitoring, energy savings verification and evaluation are needed to improve quality over time and build credibility of impacts.* The Project includes a strong monitoring component to document costs, measures and savings for each building to track impacts and prove that energy efficiency can pay for itself from cost savings. Case studies will share experiences from early building renovations, variances between audits and actual savings, lessons, etc. and training each year to potential Project contractors. Social surveys and other tools will also be used to track qualitative and other impacts.

(e) *Ensure proper construction supervision and quality of technical documentation.* One of the key lessons learned from MSIP was the need to improve construction supervision and quality of technical documentation prepared by the municipalities. To address this issue, the PIU will hire directly qualified consulting firms to develop technical documentation and supervise the construction works. In addition, two additional energy efficiency engineers will be hired by the PIU to supervise the quality of deliverables of technical consultants, including energy audits, technical documentation and construction supervision.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

33. MoF's MSIP project implementation unit (PIU) would assume overall responsibility for the Project and serve as the main implementing agency for Components 1 and 2. The MSIP PIU under MOF was selected as the implementing entity for several reasons: (i) ability to provide sub-loans and collect repayments through the MoF; (ii) the strong existing capacity of the PIU and their experience with municipal infrastructure subprojects; and (iii) PIU experience with World Bank procedures and fiduciary/safeguard requirements. The MoF will lead Component 2a, through a working group that include key stakeholders such as MoE and DBNM. The Ministry of Economy will serve as a technical lead for a portion of the TA under Component 2, related to the establishment and operationalization of the EE Fund and EE-related legislation. The EE Fund, once established, would implement Component 3. The PIU would be responsible for: (i) raising awareness about the Project and building municipal demand; (ii) calls for proposals and subproject eligibility screening; (iii) procurement of preparatory consultancies (energy audits, technical designs) and TA, or support and reviews/approvals of municipal procurement for implementation (works, supervision, energy performance certificates); (iv) financial management; (v) safeguards





and related (e.g., gender, citizen engagement) compliance; and (vi) Project monitoring and reporting. A Coordinating Committee for the Project will be established once the Project is approved by the Bank to approve annual investment plans and would include a range of public and nongovernment entities (e.g., Ministries of Finance, Economy, Health, Environment, DBNM and the Municipal Association – ZELS, etc.).

34. The PIU will issue a Call for Proposals to municipalities, inviting them to submit potential building and street lighting subprojects, on a rolling basis, for support under the Project. The PIU will screen applications to ensure the eligibility criteria have been met and then enter into project initiation agreements with the selected municipalities. The PIU will then procure energy audits and technical designs and discuss and agree on the scope of the investment with each municipality. The PIU would then enter into sub-loan and sub-grant agreements with the municipalities prior to the municipalities issuing the tender documents for the renovation works<sup>11</sup>. The sub-loan and sub-grant agreements would be adjusted based on the final contract price and any unforeseen over- or under-runs during the renovation phase (the sub-grant could be reduced but not increased). For the central government buildings, the PIU would work with MOH to identify primary healthcare facilities giving priority to those that are older, more dilapidated and have higher energy use.

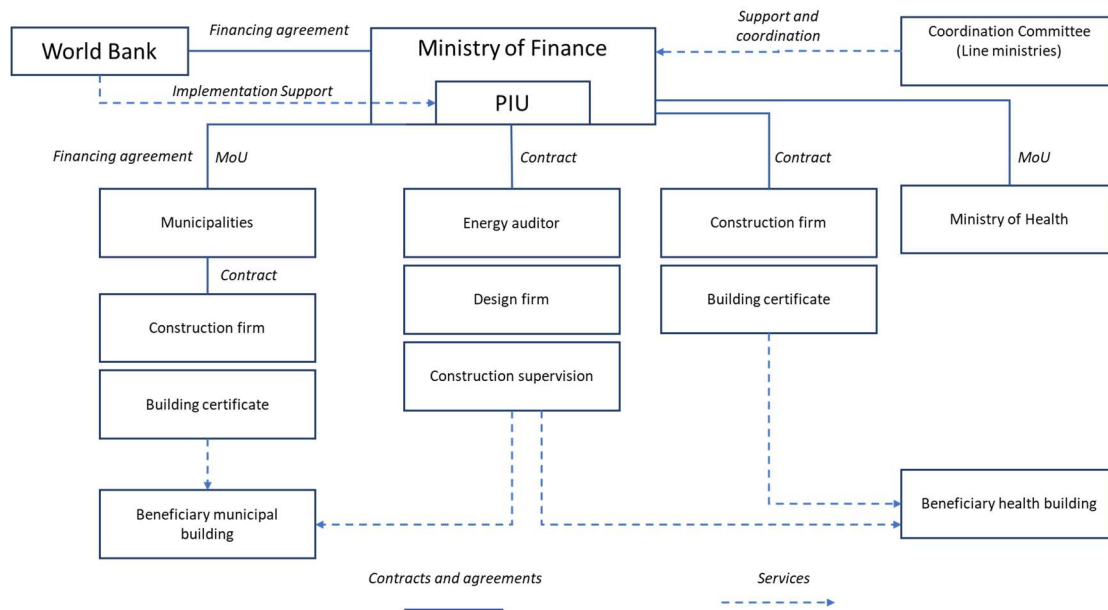
35. The MSIP PIU currently has 16 staff—one PIU manager, eight civil engineers/architects, two procurement staff, two financial management staff, one environmental expert and two translation/ administration assistants. This PIU structure was used to support implementation of various phases of the MSIP project, with one phase completed in March 2019 and the others to be completed in March 2020 and March 2021. Based on the discussions on current workloads, the Bank team determined that the PIU already has the key skills and capacity required to prepare and implement the Project, except for expertise on Mechanical Engineering (for heating) and Electrical Engineering (for renewable energy). The PIU has agreed to hire these two additional engineers once the Project commences. Reassessment will also be conducted to determine if additional fiduciary staff should be hired. A cost-sharing arrangement for the current PIU staff between MSIP and this Project was agreed with the Bank team, PIU and the Bank's MSIP team. Once MSIP 1 and 2 are completed (March 30, 2020 and 2021, respectively), the PIU staffing will be reassessed. Options to ensure a smooth transition of financing municipal subprojects from MoF's PIU to the EE Fund once it is established, and to avoid potential competition or overlap between the programs will also be developed.

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<sup>11</sup> According to local legislation, if a sub-loan to the municipality is provided, the municipality must assume responsibility for procurement and contract management.



Figure 2. Legal and Institutional Arrangements



## B. Results Monitoring and Evaluation Arrangements

36. Project progress will be monitored based on completed procurements, disbursements by the Project, physical progress of renovation works and Project indicators.

37. **Project indicators and subproject tracking:** The PDO level and intermediate indicators, including annual targets, are presented in Section VII. The PIU will develop and maintain a database which includes all building applications, status of selection, status of audits and designs, stage of renovation works, and the relevant data for each subproject required to track the PDO level and intermediate indicators. The database should be updated at least on a quarterly basis and when a batch of buildings have been commissioned and energy savings verified. PDO level and intermediate indicators for the Project would be reported based on this database. In addition, pre- and post-renovation social surveys will be carried out through the user committees to assess satisfaction with the renovations and process.

38. **Measurement and verification (M&V) of energy savings:** Energy savings will be initially reported based on the data and calculations contained in the final energy audit reports, which will assess projected energy savings in order for the building to meet the required functionality and indoor comfort levels (e.g., 20-22° C). Once each building is commissioned, a certified auditor will provide a building energy performance certificate indicating the class of the renovated building (i.e., Class C or higher) which assesses the specific energy use of the building (kWh/m<sup>2</sup>). For the buildings renovated in Year 1 of the Project, the PIU will carry out M&V for all the buildings for a period of one year after the completion of the renovation. This would include installation of sensors to collect data on indoor temperature, humidity and air quality, and collection of bills for electricity and any other heating fuels. For the buildings renovated in the subsequent years of the Project, the PIU would carry out M&V on a 20% sample of buildings over a one-year period. Any variances between the estimated savings from the energy audit and actual energy savings will be documented and actions developed to improve the quality of future energy audits, or improve technical designs, renovation implementation, operations and maintenance (O&M) of the



buildings, or address behavior of users of renovated public buildings. Annual training will also be provided to energy auditors, designers, construction firms and others to share these lessons from early subprojects.

39. **Periodic reporting to assess implementation progress and improve procedures:** In addition to implementation support missions by the Bank conducted every six months, the PIU will report about every six months to the MoF on the progress of Project implementation, identified problems and risks, and specific recommendations for any required adjustments in the Project procedures. The MoF would discuss and agree on actions to be taken to resolve issues associated with the Project and proposed measures to improve its performance. The PIU will be required to submit biannual progress reports to its management and the Bank for review.

40. **Mid-term review:** A Mid-Term Review will be carried out by the Bank to assess the overall Project progress, identify critical implementation issues, and make any necessary revisions to the Project design or schedule. The MTR is expected to be carried out at the end of Year 3.

### C. Sustainability

41. The Project has been designed to address some of the prevailing barriers noted earlier. The municipal financing with free audits/designs and partial sub-grants will help improve municipal interest to apply for the Project. Centralizing audits and designs and support for procurement/renovation oversight will help address the limited technical capacity at the municipal level and achieve better pricing through economies-of-scale. More importantly, the Project will develop the EE Fund within DBNM and enable its operationalization and initial capitalization to ensure a more sustainable mechanism is available during and beyond the Project period. As currently proposed, the EE Fund would be designed to offer a full-service approach, procurement audits/designs/renovation works, bundling subprojects together to achieve better pricing and allowing beneficiaries to repay from the energy cost savings as a non-debt instrument. Such a model removes perceived risks and outsources the entire process to trained professionals within the EE Fund. As such, it addresses issues of technical and debt capacities of municipalities as well as budgeting constraints by ensuring the municipality can retain its budgetary savings in order to repay the Fund. Over time, more experienced engineering and construction firms could offer a wider variety of services without the need for the Fund, mobilize more commercial financing, and see more building materials and components manufactured locally leading to further price reductions. It is also expected that the fund will attract financing from other IFIs/donors; the European Commission is considering allocating EU-IPA funds to co-finance the EE fund with the €5 million IBRD loan as part of the next programming period.

## IV. PROJECT APPRAISAL SUMMARY

### A. Technical, Economic and Financial Analysis

42. **Technical Analysis.** The Project will support mainly investments in building renovations and retrofits of street lighting. These investments are expected to yield substantial energy savings and net positive environmental impacts. Energy efficiency measures in public buildings and street lighting financed under the Project, similar to other energy efficiency projects in the region, involve standard technologies and equipment with proven energy savings impacts. Eligible measures include but are not limited to: thermal insulation of the building envelope (e.g. insulation of walls, basements and attics; repair/replacement of external doors, roofs and windows); replacement/upgrade of hot water, heating and cooling systems (e.g. boiler upgrade/ replacements, fuel



switching, balancing valves, thermostatic valves and automatic temperature controls, pipe insulation, chiller/air conditioner replacement, installation of solar water heater or heat pumps); installation of LED lighting; and other economically and technically viable EE measures. Some RE applications (e.g., rooftop solar PV, biomass heating, solar water heating, geothermal heat pumps) would also be considered. No technologies without proven commercial track record will be implemented, and specific measures to be implemented in each building will be determined on the basis of detailed energy audits. In addition, other non-EE measures may be eligible (under 10 percent of the investment cost) to ensure reasonably full renovation and longevity of investments. Adequate implementation of renovation works will be ensured by using licensed works supervision companies/ institutes, conducting frequent supervision visits by the PIUs’ technical experts, performing commissioning tests and applying building energy performance certificates upon completion of works. Improving the thermal insulation of the building envelope upgrading cooling systems will help increase thermal comfort and productivity for building occupants, as well as mitigate (or avoid) future increases in cooling demand.

43. **Economic and Financial Analysis.** An economic and financial analysis was carried out to assess the economic and financial viability of individual subprojects including two educational facilities (Cair primary school “Lirija” and kindergarten “Snezana”) and one municipal-level street lighting project (Brvenica public lighting). Results below are presented to demonstrate the economic impacts and financial returns of individual subproject investment in a 20-year period of 2020-2039. The results of the 3 individual subprojects can be used as representative average values for energy efficiency investments in similar public facilities under the project. Economic and financial internal rates of return and net present values (NPVs) by subprojects are calculated using a standard cost-benefit methodology. The capital costs considered in the analysis are project costs associated with investment of energy efficiency measures. Associated operations and maintenance (O&M) costs are also accounted for. The economic benefits are assessed by calculating the expected energy saving estimated based on the results in the energy audits that would occur in the project scenario. Both electricity savings (primarily from lighting replacement in the buildings and street lighting subprojects) and heat energy savings are included in the estimated benefits. Additional economic benefits from the energy efficiency investments in public buildings include increased thermal comfort of occupants in the buildings and other environmental externalities etc. These benefits are commonly recognized and yet difficult to quantify. The economic analysis shows that individual subprojects are economically viable with economic internal rates of return (EIRRs) for each individual subproject well beyond the recommended threshold of 6.4 percent (Table 2). The financial analysis also demonstrates the financial viability of the individual subprojects assessed.

**Table 1: Key Assumptions for economic and financial Analysis**

<i>Parameter</i>		<i>Unit</i>	<i>Value</i>
Total investment cost with/without VAT	Brvenica public lighting	US\$	1,249,971
			1,474,966
	Cair primary school “Lirija”		397,815
			469,422
	kindergarten “Snezana”		270,408
			319,081
Exchange rate MKD/US\$		MKD/US\$	51.9
Discount rate		%	6.4
Inflation		%	2
VAT		%	18



Electricity tariff for public building with/without VAT		US\$/kWh	0.104 0.088
Electricity tariff for street lighting with/without VAT excluded		US\$/kWh	0.126 0.107
Unit price of light fuel oil with/without VAT excluded		US\$/kWh	0.137 0.12
District heating tariff with/without VAT excluded		US\$/kWh	0.096 0.08
Light fuel oil conversion factor		GJ/L	0.0388
Conversion factor		MJ/MWh	3600
Share of annual O&M cost in total investment		%	2
CO2 value		US\$/tCO2	40-60
Assessment period		Year	20

**Table 2. Summary Results of Economic and Financial Analyses of EE Investments in Sample Projects**

	Economic analysis results			Financial analysis results		
	NPV (US\$)	EIRR (%)	Payback period (year)	NPV (US\$)	FIRR (%)	Payback period (year)
Public lighting	2,944,308	114.0%	1.9	2,357,611	67.8%	2.5
Primary school	206,69	13.1%	8.3	177,218	11.4%	9.1
Kindergarten	116,712	21.7%	4.9	99,789	17.6%	5.5

44. **Avoided greenhouse gas emissions (GHG).** Assessment of GHG reduction was done using the Bank’s GHG accounting methodology undertaken for individual subprojects. The estimated potentials of carbon emission reductions for individual subprojects are presented in Table 3. The estimates are based on the following assumptions: (i) grid emission factor of 0.861 tCO<sub>2</sub>e/MWh; (ii) emission factor of light fuel oil at 68.37 kgCO<sub>2</sub>e/GJ; and (iii) emission factor of district heating of 0.202 tCO<sub>2</sub>e/MWh. Overall the Project is estimated to result in carbon emission reduction of about 234,919 tons over the Project period. Based on the World Bank’s Guidance on Shadow Price of Carbon in Economic Analysis (November 2017), the Project economic NPV and EIRR were evaluated using an estimate of the carbon price in the range of \$40-60 per ton CO<sub>2</sub>e.



**Table 3. Greenhouse Gas Impact over Project lifetime**

	<i>Period of impact</i>	<i>Emissions Reductions</i>
Brvenica public lighting	2020-2039	36,015 tCO <sub>2</sub> e
Cair primary school "Lirija"		2,143 tCO <sub>2</sub> e
Kindergarten "Snezana"		1,219 tCO <sub>2</sub> e

45. **Sensitivity analysis:** A sensitivity analysis is performed to test the robustness of economic and financial returns to the changes in underlying parameters. A switching value analysis shows the sensitivity of economic returns to capital cost, energy saving, and carbon benefits. The economic return of public lighting is proven most robust among the three types of subprojects, with a switching value of capital cost estimated at US\$3.27 million (161.3 percent increase), or a switching value at 2% of original energy savings, above which the investment would not be economically viable. The economic viability of all individual subprojects is preserved under a scenario of excluding CO<sub>2</sub> benefits. With regard to the sensitivity analysis for the robustness of financial returns, a switching value analysis shows the sensitivity of financial returns to decrease in energy savings and capital costs. The financial returns for the public lighting project prove to be most robust among the three types of subprojects, with a switching value of capital cost estimated at US\$3.23 million (119.3 percent increase), or a switching value at 31.2% of original energy savings, above which the investment would not be viable.

**Table 4: Sensitivity Analysis**

Scenario	EIRR or Switch Value (so NPV = 0)		
	Public lighting	Primary school	Kindergarten
<b>Scenario 1:</b> Decrease in energy savings	Switching value at 2% of original savings	Switching value at 62% of original savings	Switching value at 58.3% of original savings
<b>Scenario 2:</b> Increase in capital cost	Switching value at \$3.27 million (161.3% increase)	Switching value at \$606,270 (52.4% increase)	Switching value at \$432,111 (59.8% increase)
<b>Scenario 3:</b> Excluding GHG benefits	<b>EIRR: 67.7%, NPV: US\$1.99million</b>	<b>EIRR: 11.4%, NPV: US\$150,185</b>	<b>EIRR: 17.6%, NPV: US\$84,567</b>



Scenario	FIRR or Switch Value (so NPV = 0)		
	Public lighting	Primary school	Kindergarten
<b>Scenario 1:</b> Decrease in energy savings	Switching value at 31.2% of original savings	Switching value at 72.4% of original savings	Switching value at 69.8% of original savings
<b>Scenario 2:</b> Increase in capital cost	Switching value at \$3.23million (119.3% increase)	Switching value at \$648,271(38.1% increase)	Switching value at \$457,243 (43.3% increase)

## B. Fiduciary

### (i) Financial Management

46. The MoF will oversee overall implementation of the Project, and the existing MSIP PIU within the MoF will assume financial management responsibilities for the Project and will be the focal point for reporting to the World Bank. The financial management arrangements of the ongoing project (MSIP) implemented by MoF are satisfactory and they will be applied to the Project as well. There are no outstanding Interim Financial Reports (IFRs) or audit reports under the current project. A full set of interim un-audited financial reports (IFRs) will be submitted to the Bank on a quarterly basis throughout the life of the Project. The reports will incorporate detailed information on amounts transferred to the MoF from the Designated Account, amounts transferred to the beneficiaries, and any unused funds which were transferred from the Designated Account. The PIU has all core functions appropriately staffed and the capacity of the unit can be assessed as sufficient. Financial officer within the PIU will assume financial management responsibilities for the project and she is a qualified specialist with prior experience in implementation of World Bank projects. She will be supported by one other financial assistant already hired under the MSIP project. Locally developed software used for project accounting and reporting of the ongoing MSIP project will also be used for this Project. This software has demonstrated solid performance regarding financial transparency and reliability of the project data. The annual audited project financial statements will be provided to the Bank within six months of the end of each fiscal year and at the closing of the Project. The audit will also include performance and operational audit in line with the Terms of Reference (ToR), which will be agreed with the Bank. Overall, the financial management arrangements for the Project are acceptable to the Bank, and they will be further strengthened through the finalization of the financial part of the POM.

47. Appropriate internal controls and flow of funds arrangements designed and instituted for MSIP will be used for this Project as well. These are essential in ensuring (i) appropriate controls and monitoring of the flow of funds and (ii) that the funds will flow only to the entitled beneficiaries and for intended purposes. Appropriate checks and evidence are instituted as requirements to provide reasonable assurance in this respect. The respective controls and procedures are described in Annex 1 (Implementation Arrangements and Support Plan) and also detailed in the financial section of the POM. These include ex-ante and ex-post controls, such as signed receipts of funds by beneficiaries, physical inspections etc.

48. The National Bank of the Republic of North Macedonia (NBRNM), where the Designated Account will be opened, is maintaining the Treasury Account. The funds will flow from the Designated Account, through the transit MKD account opened for the project within the Treasury Single Account (TSA), to the MoF account within the TSA (which will provide sufficient level of transparency and ability to track the project funds as separate line items). Overall financial management risk is assessed to be moderate as PIU is experienced in dealing with similar type of



operations under the current projects in implementation.

**(ii) Procurement**

49. **Procurement Assessment.** The Project will be implemented by the MSIP PIU within the MoF, which currently manages three World Bank-financed projects. The Bank's Procurement Specialist assigned to the Project, conducted a review of the capacity of the implementing agency in order to establish the overall risk for managing procurement and based on the assessment proposes some mitigating measures for enhancing the capacity of the agency. This assessment concluded that the PIU has substantial experience in World Bank procurement procedures and has shown satisfactory performance in procurement for World Bank-financed projects. The PIU has a solid management structure and is staffed with one experienced procurement specialist managing procurement under the current three operations, assisted by procurement assistant. The Bank's procurement assessment also observed the PIU's satisfactory diligence in record keeping and quality of evaluation. The procurement processing and contract management was rated Satisfactory. The implementing agency is familiar with the World Bank's procurement documents and procedures; however, continuous training on the New Procurement Framework will be needed.

50. **Applicable Regulations.** The Bank's Procurement Framework effective as of July 1, 2016 will be governing procurement under the proposed Project. Procurement of contracts for goods, works non-consulting and consulting services financed from the Project, will be carried out in accordance with the World Bank Procurement Regulations for Investment Project Financing (IPF) Borrowers – Procurement in IPF of Goods, Works, Non - Consulting and Consulting Services, (Regulations) issued in July 2016, revised November 2017 and August 2018. The Bank's Standard Procurement Documents (SPD) will be used as required by the Bank's procurement Regulations. These documents are all accessible at [www.worldbank.org/procurement](http://www.worldbank.org/procurement). The Project will be subject to using the Bank's electronic platform Systemic Tracking of Exchanges in Procurement (STEP). STEP will be used by the PIU initially to create and later to revise Procurement Plan for the project, and to monitor performance, manage procurement procedures and store related documentation for all steps in the procurement process.

51. **Project Procurement Strategy for Development.** As required by the Bank, a Project Procurement Strategy for Development (PPSD) was prepared by the PIU in line with the Bank's Procurement Regulations applicable for the Project. The PPSD is the basis for the procurement arrangements under the Project. The PPSD addresses how procurement activities will support the development objectives of the Project and deliver the best value for money under a risk-based approach. It also provides an adequate justification for the selection methods in the Procurement Plan. The level of details and analysis in the PPSD are proportionate to the risk, value and complexity of the project procurement. The PPSD also provides information on the procurement specific risks and the proposed mitigation measures. The proposed procurement and review thresholds applicable to the project shall be aligned with the Bank's most recent Thresholds for Procurement Approaches and Methods. Accordingly, an initial Procurement Plan is prepared and agreed with the Bank for the first 18 months of the Project. The short form of the PPSD includes details on the Project overview, strategic assessment of the operating context, Borrower's capability to manage procurement, procurement risk analysis, procurement objectives, procurement approach options and recommendations, preferred arrangements for low value low risk contracts, and a summary procurement plan.





**C. Legal Operational Policies**

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

**D. Environmental and Social**

52. In accordance with the provisions of the World Bank’s Environmental and Social Framework (ESF) and relevant Environmental and Social Standards (ESS), the environmental risks have been considered during the project preparation and confirmed to be Moderate. Those risks are mainly associated with impacts of renovation/retrofitting and further operation of public and municipal buildings, public lighting, and may include generation of waste, including hazardous waste, noise, dust, disturbance to local communities and landscapes. The Environmental and Social Management Framework (ESMF) has been developed by the client, which provides for an overview of national legislative and regulatory framework and institutional outline. It also indicates potential positive and adverse environmental and social impacts, describes the procedures and responsibilities, and proposes an outline for addressing specific impacts of the project implementation. The specific impacts cannot be pre-determined as they will be identified in the course of the development of the Environmental and Social Management Plans (ESMP) for each specific site/subproject where civil works will be implemented. The subproject-specific ESMPs shall be in line with the World Bank General Environmental, Health and Safety (EHS) guidelines, including those related to Energy Conservation. There are some social risks related to Occupational Health and Safety (OHS) if work protection measures are not applied properly. The existing MSIP PIU has a full-time environment and social specialist to ensure the project meets environmental and social safeguards. The social risks considered during project preparation were assessed to be low. Issues that need to be addressed during sub-project implementation are those related to uninterrupted provision of services at the buildings (health, education etc.). In case schools are to be retrofitted, then most of the works should be planned to be carried during school holidays. When reconstruction works are carried out in facilities used by users such as students, patients, employees, there will be a temporary transitional impact for these users. This impact can be minimized through thorough, two-way communication with the management of the building (e.g. to minimize work disruptions for the users as much as possible) and through the proactive provision of information to users.

53. The Project will result in substantial climate co-benefits. The Project has been assessed and assigned 100 percent climate finance co-benefits (or the full US\$27.4 million loan), since reductions in energy use will lead to corresponding reductions in the need for power and heat generation. The Project also contributes to climate adaptation, as the renovation of public buildings will seek to reduce the demand for heating and cooling from the building envelope measures; such investments will mitigate the impacts of future extreme temperatures on building users.

**Gender and Citizen Engagement**

54. **Gender.** The Project is self-assessed as gender-tagged as it provides a gap analysis to understand the gender differences in the labor market, particularly with women’s representation in the energy sector. North Macedonia is characterized by large gender disparities in the labor market, and women are disproportionately impacted by the overall challenging labor market situation in the country, including: higher inactivity, lower wages,



and higher poverty rates among others. According to a USAID study titled *Engendering Utilities: Improving Gender Diversity in Power Sector Utilities*<sup>12</sup>, the largest energy companies in North Macedonia employ a significantly lower number of women compared to men. In EVN Macedonia, the country's power utility, women account for 19.6 percent of total workforce (about 1000 employees), 21.1 percent of engineers, and only 3.4 percent of technical field operations staff, which account for almost half of the total workforce (430 employees). The Project will contribute to women's increased representation in the engineering professions with a focus on energy efficiency. To accomplish this objective, the Project will provide a targeted training program for women and increasing awareness about employment opportunities under the project investments. To track progress on the impacts of these activities, the PIU will monitor the following indicator-- percentage of female staff hired under service contracts for technical and design work under the Project. Further details regarding the implementation arrangements for gender activities are provided in Annex 1.

55. **Citizen Engagement.** The Project will organize citizen engagement activities at the project level as well as at the subproject level to consider feedback from project beneficiaries. At the project level, citizen engagement activities will be part of the stakeholder engagement and the issues to be discussed will include policy issues, technical assistance activities, gender and other project related activities. Actors such as state agencies, relevant ministries (i.e., Ministry of Economy), ZELS (Municipal Association) and others will have regular meetings to discuss project level issues through the Coordination Committee. At the subproject level (schools, clinics or other public buildings to be retrofitted), user committees will be formed to provide feedback for the selected subproject during the three stages of the subproject: the technical design stage, the renovation phase and the acceptance and commissioning stage. The user committees will provide feedback for the energy audit and proposed design, as well as during the construction and at the end once the works are completed. A scorecard will be used to determine the percent of user committee members satisfied with the renovation consultation processes. Corrective action will be taken to address issues raised through the feedback process.

## V. GRIEVANCE REDRESS SERVICES

56. A Grievance Redress Mechanism will be developed to allow for submission of complaints at the subproject level, be it local or through a centrally established mechanism. At the local level the beneficiary municipality will provide information for the subproject and contact information for submitting complaints to the PIU for issues that might arise during project implementation. This information will be provided through info-tables in the sub-project site and municipality's website and social media pages. The grievance log will be maintained at the central level (PIU) and the responsiveness of the project will be discussed with the project-level stakeholders.

57. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance

<sup>12</sup> [https://unfccc.int/sites/default/files/engendering\\_utilities.pdf](https://unfccc.int/sites/default/files/engendering_utilities.pdf)



Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## VI. KEY RISKS

58. **The overall Project risk is rated as Moderate.** The Sector Strategies and Policies coupled with the Institutional Capacity for Implementation and Sustainability risks (particularly with respect to setting-up and operationalizing the EE Fund) introduce substantial risks to the Project. However, the underlying investments in government building renovations and the operating environment are lower risk, so the overall risk rating is proposed as Moderate.

59. **Sector strategies and policies are rated as Substantial.** Major changes in sectoral policies are unlikely given the convergence with EU directives and the recently passed Energy Law as well as the forthcoming Energy Efficiency Law. However, some key areas such as energy pricing will need to be closely monitored, especially with the implementation of recent reforms and development of fuel prices (natural gas, wood pellets, firewood, coal etc.). A key risk relates to the demand for financing under the Project, given limited debt capacity levels of many of the municipalities. Proper marketing of the Project, inclusion of a small grant component for municipalities and centrally managed and funded energy audits/technical designs should help improve interest. A second risk relates to the design and set-up of the proposed EE Fund, given that there remain some competing views within the government how the Fund should be managed and operated. Periodic stakeholder engagement will be critical to seek to build consensus regarding the operating principles and modalities of the Fund, with an emphasis on serving the needs of municipalities. Also, DBNM remains primarily a wholesale lending entity and would need to develop both the risk tolerance and management capabilities as well as staff capability and procedures to operate the Fund. The proposed technical assistance under Component 2 will assess these issues and provide suitable recommendations for the setup of the EE Fund. Some ring-fencing of the Fund within DBNM, requirements for staff recruitment and the development of a Fund POM will help address these risks. Finally, there remain alternative approaches among IFIs/donors on how best to support energy efficiency, with some believing only commercial financing through banks and ESCOs should be developed while others seeing a greater role for the government and public financing to develop these markets. Strong stakeholder engagement, donor coordination and design elements to ensure the Fund seeks to avoid competition with commercial financing schemes.

60. **Institutional capacity for implementation and sustainability is rated as Substantial.** While the institutional capacity risk is rated as moderate, the risk to sustainability is substantial. The PIU has strong experience with working with the Bank, financing subprojects with municipalities, working with the construction sector, etc. However, they will need some capacity building on the energy and energy efficiency aspects. In terms of sustainability, the proposed set-up and operationalization of the EE Fund will be critically important. TA to develop the legal basis and operating procedures for the Fund, the €5 million set-aside for the EE Fund once it is established, and the soon-to-be-approved Energy Efficiency Law will all help ensure the Fund can assume long-term responsibility for financing energy efficiency in the public sector. Gaining full buy-in from the relevant ministries during Project implementation, close policy dialogue with counterparts, design of robust and locally-suitable financing mechanisms, etc. will all be critical to address this risk. Significant support will also be required by DBNM to ensure they have the necessary technical staff, fiduciary skills, etc. to operate the Fund successfully.



61. **Disaster risks are rated Moderate.** North Macedonia is exposed to various types of disaster risks, including earthquakes, wild fires, floods, droughts, extreme temperatures and landslides. Based on the climate and disaster risk screening conducted for the proposed Public Sector Energy Efficiency Project, North Macedonia is moderately exposed to risks of earthquakes and floods, with earthquakes posing a greater risk of high impact, lower probability event (10% chance of potentially-damaging earthquake in the next 50 years). North Macedonia's worst earthquake since 1900 was registered in 1963 and its epicenter was just north of the capital Skopje. This earthquake was the most destructive earthquake in Former Yugoslavia causing losses, mostly in the city of Skopje, of about 15% of Yugoslavia's gross national product. Wildfires and floods pose a high risk in almost all parts of the country. Wildfires are correlated with extreme drought years and high temperatures. Beside the topographic characteristics and relatively dense hydrographic network of North Macedonia, flooding risk is elevated by the fact that most of the country's river basins are facing increased spatial and temporal variability of water resources. The most recent floods that created significant damages in the country were registered in 2004 and 2015. The 2015 floods resulted in total damage and loss of about €35.7 million. There is some low-level threat of soil erosion and landslides in eastern and western parts of the country.

62. To mitigate these risks, the following approaches will be taken: (i) designs for building retrofits will have to comply with relevant construction/building codes and permit requirements (including fire protection, seismic safety and others); (ii) measures will be designed so as to take into account potential risks of flood and landslides damaging equipment and work implemented especially with respect to heating systems (e.g., assess possibility to elevate boiler and pellet storage rooms), and take into account potential impacts of the proposed measures on structural stability of the facility, e.g. in the case of roof replacements or reconstruction; (iii) eligibility criteria for buildings will include structural soundness and be screened for seismic stability; and (iv) should structural deficits be identified at any stage of the building preparation and implementation process that cause serious risks of collapse due to earthquakes, additional assessments will be conducted to assess required measures and associated costs.



**VII. RESULTS FRAMEWORK AND MONITORING**

**Results Framework**

**COUNTRY: North Macedonia**

**North Macedonia Public Sector Energy Efficiency Project**

**Project Development Objectives(s)**

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

**Project Development Objective Indicators**

Indicator Name	DLI	Baseline	Intermediate Targets						End Target	
			1	2	3	4	5	6		
<b>Reduction of energy consumption in the public sector and establishment of EE Fund</b>										
Establishment and operationalization of an EE Fund (Text)		No Energy Efficiency Fund for public sector		Energy Efficiency Fund legally established	Operating procedures, investment and staffing plan adopted by the EE Fund’s Board of Directors and approved by the Bank, and the Fund operation unit established					EE Fund is established and operationalized
Projected lifetime energy savings from EE investments in the public sector (Mega Joules (MJ))		0.00	0.00	606,098,000.00	1,185,891,000.00	1,676,022,000.00	2,157,820,000.00	2,454,434,000.00	2,454,434,000.00	



**Intermediate Results Indicators by Components**

Indicator Name	DLI	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
<b>Energy efficiency investments in the public sector</b>									
Associated CO2 emissions reductions as a result of the energy savings (Metric ton)	0.00	0.00	0.00	72,108.00	142,074.00	178,964.00	215,175.00	235,896.00	235,896.00
Energy cost saving from EE measures (EURO) (Number)	0.00	0.00	0.00	1,004,302.00	1,962,761.00	2,714,233.00	3,451,181.00	3,851,705.00	3,851,705.00
Associated particulate matter (PM) emission reductions as a result of the investments (Metric ton)	0.00	0.00	0.00	14,578.00	26,831.00	48,140.00	68,713.00	69,997.00	69,997.00
Number of subprojects completed (Number)	0.00	0.00	0.00	20.00	39.00	63.00	86.00	103.00	103.00
Number of buildings renovated with energy performance certificates of class C or higher (Number)	0.00	0.00	0.00	19.00	37.00	61.00	84.00	101.00	101.00
Direct project beneficiaries (Number)	0.00	0.00	0.00	47,508.00	73,634.00	81,009.00	93,067.00	96,892.00	96,892.00
Female beneficiaries (Percentage)	0.00	0.00	0.00	50.00	50.00	50.00	50.00	50.00	50.00
Increase in enduser satisfaction in renovated buildings (Percentage)	0.00	0.00	0.00	65.00	70.00	75.00	80.00	90.00	90.00



Indicator Name	DLI	Baseline	Intermediate Targets						End Target
			1	2	3	4	5	6	
<b>Technical assistance and implementation support</b>									
Number of energy auditors, technical designers, constructors, supervisors trained (Number)		0.00	0.00	40.00	60.00	80.00	100.00	100.00	100.00
Number of female technical staff trained (Number)		0.00	0.00	20.00	25.00	35.00	50.00	50.00	50.00
Female staff hired under service contracts for technical and design work under the Project (Percentage)		20.00	20.00	20.00	25.00	25.00	30.00	30.00	30.00
Users committee members satisfied with the renovation consultation processes (Percentage)		0.00	0.00	65.00	70.00	75.00	80.00	85.00	90.00

**Monitoring & Evaluation Plan: PDO Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Establishment and operationalization of an EE Fund	This indicator aims to track progress in operationalization of the EE fund including: (i)	Semi-annually	PIU/MoF/DB NM	Gathering of formal documents on establishment and operationalization of EE	PIU



	establishment of a legal entity and institutional setup of the EE fund; (ii) Operating procedures, investment and staffing plan adopted by the Fund’s Board of Directors and approved by the Bank, fund operation unit established; and (iii) development of pipeline, initial audits and technical design etc.			Fund	
Projected lifetime energy savings from EE investments in the public sector	This indicator monitors projected energy savings achieved from all subprojects in the lifetime period of 20 years. Baseline value is zero.	Semi-annually	Technical M&E report/Energy Audit	Technical M&E report/Energy Audit	PIU

**Monitoring & Evaluation Plan: Intermediate Results Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Associated CO2 emissions reductions as a result of the energy savings	This indicator projects lifetime GHG emissions that are avoided by energy efficiency measures supported under the project. the savings are calculated for the number of subprojects commissioned	Semi-annually	Technical M&E reports/Energy Audits	Technical M&E reports/Energy Audits	PIU





	each year, based on the technical M&E reports and using the CO2 content of the fuel used. baseline value is zero.				
Energy cost saving from EE measures (EURO)	This indicator projects annual energy cost savings (in EURO) resulting from EE investments made under the project.	Semi-annually	Technical M&E report/Energy Audit	Technical M&E report/Energy Audit	PIU
Associated particulate matter (PM) emission reductions as a result of the investments	The total lifetime avoided PM emissions equivalent from EE investments made under the project, using the grid emissions factor in North Macedonia for electricity and particle content for other fuels saved (e.g., light fuel oil, firewood, coal).	Semi-annually	Technical M&E report / Energy Audit	Technical M&E report / Energy Audit	PIU
Number of subprojects completed	This indicator measures progress in selecting and implementing subprojects.	Semi-annually	technical M&E reports		PIU
Number of buildings renovated with energy performance certificates of class C or higher	As per North Macedonian building regulations, all renovated buildings must be certified in compliance with energy performance certificates of class C. As with all building renovation projects in ECA region, subproject baselines are	Semi-annually	Technical M&E report		PIU



	adjusted to account for heating of buildings to meet national norms of 20 -22 Celsius degree.				
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from a renovated building subproject.	Semi-annually	technical M&E reports		PIU
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	semi-annually	Technical M&E reports		PIU
Increase in enduser satisfaction in renovated buildings	This indicator measures change in end-user satisfaction before and after retrofitting of selected municipality buildings through targeted social surveys among direct project beneficiaries. the change is measured as percentage increase in the number of survey respondents that are satisfied with overall comfort levels in the building.	Semi-annually	End-user survey reports	surveys	PIU



Number of energy auditors, technical designers, constructors, supervisors trained	This indicator measures the increase in capacity of technical staff for municipal energy efficiency subprojects.	Semi-annually	technical M&E reports		PIU
Number of female technical staff trained	Specify what proportion of the trained energy auditors, technicians, construction supervisors are female.	Semi-annually	Technical M&E reports		PIU
Female staff hired under service contracts for technical and design work under the Project	This indicator tracks the progress of female staff hired under service contracts for technical and design work	Semi-annually	Procurement documents	Procurement documents	PIU
Users committee members satisfied with the renovation consultation processes	This indicator tracks the progress on citizen engagement during construction and post construction phases of the subprojects user committee will be formed prior to the selection of buildings and stakeholder consultations will be carried out via the committee to monitor and provide feedback to subprojects.	Semi-annually	Survey		PIU





## **ANNEX 1: Implementation Arrangements and Support Plan**

### **COUNTRY: North Macedonia Public Sector Energy Efficiency Project**

#### **Institutional and Implementation Arrangements**

1. As mentioned in the Appraisal Summary, MoF's MSIP project implementation unit (PIU) would assume overall responsibility for the Project and serve as the main implementing agency for Components 1 and 2. The MSIP PIU under MOF was selected as the implementing entity for several reasons: (i) ability to provide sub-loans and collect repayments through the MoF; (ii) the strong existing capacity of the PIU and their experience with municipal infrastructure subprojects; and (iii) PIU experience with World Bank procedures and fiduciary/safeguard requirements. The MoF will lead Component 2a, through a working group that include key stakeholders such as MoE and DBNM. The Ministry of Economy will serve as a technical lead for a portion of the TA under Component 2, related to the establishment and operationalization of the EE Fund and EE-related legislation. The EE Fund, once established, would implement Component 3. The PIU would be responsible for: (i) raising awareness about the Project and building municipal demand; (ii) calls for proposals and subproject eligibility screening; (iii) procurement of preparatory consultancies (energy audits, technical designs) and TA, or support and reviews/approvals of municipal procurement for implementation (works, supervision, energy performance certificates); (iv) financial management; (v) safeguards and related (e.g., gender, citizen engagement) compliance; and (vi) Project monitoring and reporting. A Coordinating Committee will be established after approval by the Bank's Board. This Committee will consist of representatives from the following Ministries: (i) Finance, (ii) Economy, (iii) Education, (iv) Environment and Physical Planning, (iv) Health and (v) Energy Agency, as well as a representative from the Municipal Association – ZELS. The Bank and MOF also agreed that the DBNM will be invited to the Coordination Committee as an observer. The Coordination Committee's role will be to monitor overall project implementation and coordination.

2. The PIU will issue a Call for Proposals to municipalities, inviting them to submit potential building and street lighting subprojects, on a rolling basis, for support under the Project. The PIU will screen applications to ensure the eligibility criteria have been met and then enter into project initiation agreements with the selected municipalities. Building eligibility criteria will include: (i) ownership by (or assigned to) the local government (excluding municipally-owned enterprises, private buildings with municipal tenants) ; (ii) must be structurally and seismically safe , not had a full EE renovation in the past 10 years, and be at least 5 years old; and (iii) no plans for office moves, closure, building demolition or privatization; and (iv) sufficient utilization rates (e.g., at least 60% of the designed capacity of the building is being used). The PIU needs to make sure that selected buildings meet the eligibility criteria and structural safety requirement before energy audits are contracted. The initiation agreements will help ensure that once the PIU begins to spend Project funds on the energy audit, etc. the municipality does not back out of the subproject. The PIU will then procure energy audits and technical designs and discuss and agree on the scope of the investment with each municipality. In accordance with the local laws, the PIU will also procure a licensed company to audit the technical designs for the subproject. The PIU would then enter into loan agreements with the municipalities prior to the municipalities issuing the tender documents for the renovation works. The loan agreement would be adjusted based on the final contract price and any unforeseen over- or



under-runs during the renovation phase. For the central government buildings, the PIU would work with MoH to identify primary healthcare facilities with prioritization on those that are older, more dilapidated and have higher energy use. In addition to procuring energy audits, technical designs and supervision, the PIU will also directly procure works for renovation of central government buildings. These investments would be done on a grant basis, i.e., there would not be any loan agreement signed with the beneficiaries.

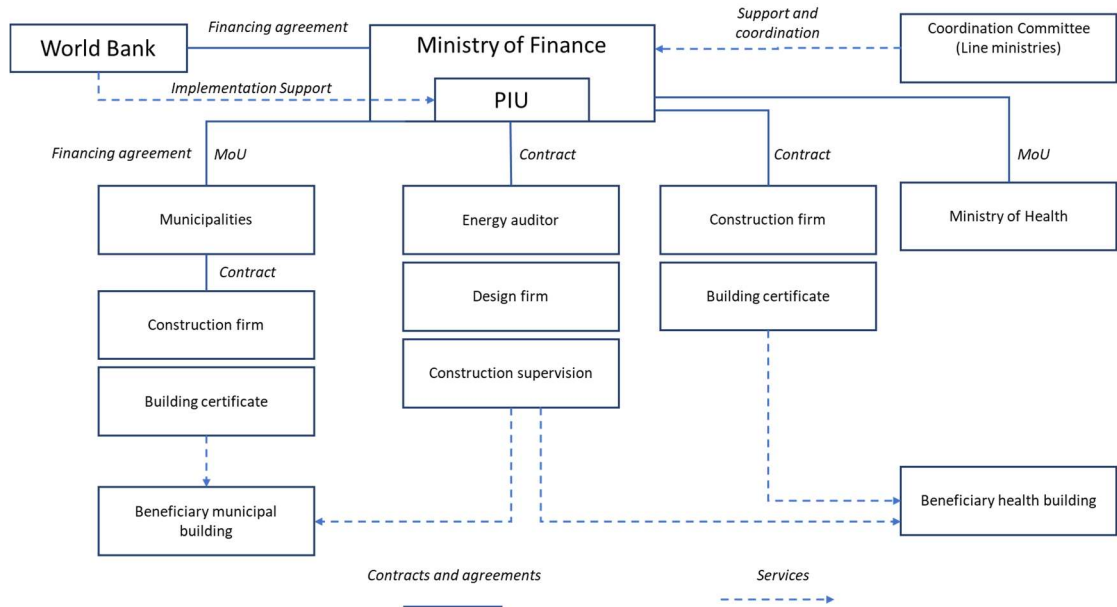
3. The municipal sub-project cycle would include the following steps:

- a. Call for proposals issued by PIU
- b. Submission of proposals by municipalities
- c. PIU conducts screening for eligibility criteria
- d. Project initiation agreement signed with municipalities
- e. PIU contracts energy efficiency audit and technical designs
- f. Agreement with municipalities on scope of investments
- g. MoF to provide opinion on borrowing for the municipality;
- h. Signing of Sub-loan agreement and grant agreement (if applicable) with municipalities;
- i. Municipality hires works contractor for implementation
- j. PIU supervises implementation;
- k. Commissioning
- l. Certified auditor provides energy performance certificate
- m. Measurement and Verification for 1 year performed by PIU.

4. The MSIP PIU currently has 16 staff—one PIU manager, eight civil engineers/architects, two procurement staff, two financial management staff, one environmental expert and two translation/administration assistants. This PIU structure was used to support implementation of various phases of the MSIP project, with one phase completed in March 2019 and the others in March 2020 and March 2021. Based on the discussions on current workloads, the Bank team determined that the PIU already has the key skills and capacity required to prepare and implement the Project, except for expertise on Mechanical Engineering (for heating) and Electrical Engineering (for renewable energy). The PIU will hire to additional engineers once the Project commences. A cost-sharing arrangement for the current PIU staff between MSIP and this Project was agreed with the Bank team, PIU and the Bank's MSIP team. Once MSIP 1 and 2 are completed (March 30, 2020 and 2021, respectively), the PIU staffing will be reassessed.



Figure 3. Legal and Institutional Arrangements



### Financial Management and Disbursement

5. **Risk Analysis.** The overall financial management risk for the project is moderate as PIU is experienced in dealing with similar type of operations under the current projects in implementation.

6. **FM performance of the active project.** As mentioned in the Appraisal Summary section of the PAD, the FM arrangements of the ongoing project (MSIP) implemented by MoF is satisfactory. There are no outstanding Interim Financial Reports (IFRs) or audit reports under the current project. The appointed auditor (Grant Thornton, Macedonia), acceptable to the Bank, has carried out the audit in accordance with acceptable auditing standards, i.e. International Standards on Auditing and has issued an unmodified (clean) opinion on the project financial statements as of December 31, 201. The project management letter mentioned no accounting or internal controls deficiencies identified during the audit.

7. **Staffing.** The PIU has all core functions appropriately staffed and the capacity of the unit can be assessed as sufficient. Financial officer within the unit who will be assigned with financial management responsibilities for the project is a qualified specialist with prior experience in implementation of World Bank projects. She will be supported by one financial assistant already hired under the MSIP project. Terms of Reference for both staff with detailed descriptions of duties will be included in the financial part of the POM. The implementing entity is responsible for the project’s financial management arrangements and its accountant will provide supplementary expertise and time as will be required for the specificity of Bank procedures for accounting, reporting, and disbursement procedures. The PIU staff within the MoF needs to have sufficient qualifications and experience to perform tasks in its scope. The MoF is assessed to have sufficient capacity to ensure appropriate staffing.

8. **Planning and Budgeting.** The PIU has adequate capacity for planning and budgeting in terms of human resources, availability of quality information, and IT system and its staff have good experience in budget preparation. However, it should be observed whether variances of actual versus budgeted figures are monitored on regular basis and appropriately analyzed and followed up. The PIU will prepare single budget for all project activities. The PIU will collect information on the budgeted figures for cash benefits from the beneficiaries. The MoF is assessed to have sufficient capacity to perform the above tasks and prior experience in coordinating similar



processes of work with various municipalities.

9. **Information Systems.** MoF uses the treasury system for its accounting and reporting. The treasury system was assessed by the Bank's diagnostic work and found to be sound with reliable reporting and ex-ante controls. A locally developed software used for project accounting and reporting of the ongoing project (MSIP) will be used also for the new project as it is assessed to be beneficial for financial transparency and reliability of the project data given the complexity of the project and a need to consolidate all project information in one place. By project effectiveness, the PIU will need to update the existing project accounting software to accommodate the records of the new project.

10. **Accounting Policies and Procedures. The accounting books and records will be maintained on cash basis with additional information on signed contracts. Project financial statements will be presented in Euro.** The entity implementing the project should apply in practice a set of acceptable accounting procedures and internal controls including authorization and segregation of duties for the project. To improve safeguard of assets, additional internal control procedures are instituted (e.g. reconciliation between accounts and records, reconciliation of cash and bank balances) and described in the financial manual. Financial part of the POM will set out the financial management and internal control policies and procedures and is intended to guide staff and minimize the risk of errors and omissions, as well as delays in recording and reporting. These written standards also clarify responsibilities, including level of authority, clear control over cash, and bank accounts, and it ensures timely and accurate financial reporting.

11. **Financial Reporting and Monitoring. Project management-oriented interim un-audited financial reports (IFRs) will be used for project monitoring and supervision.** The format of the IFRs has been agreed during negotiations and attached to the Minutes of Negotiations. The reports will include consolidated financial information on all project funds. The reports will also incorporate detailed information on amounts transferred to the MOF, amounts paid to beneficiaries through the Bank and any unused funds which were transferred from the Designated Account. The PIU will produce a full set of IFRs for each calendar quarter throughout the life of the project. They will be due 45 days after each quarter ends. The IFRs will comprise the following reports presented in the agreed format: (a) Statement of Sources and Uses of Funds; (b) Uses of Funds by Activity; (c) Designated Account statement; (d) Unit of Output by Activity; (e) Detailed breakdown of sub loans and grant; and (f) Narratives to the reports. The accounting for the project is cash basis with additional information provided for commitments on signed contracts.

12. **Internal Controls. An adequate system of internal controls and procedures was instituted as part of the ongoing project.** Such system is assessed as reliable and will continue to be applied to the new project as well. The current management control framework is described in a financial management section of the existing POM for PSEEP. The current financial management section will serve as the basis for the development of the respective chapter of the POM of the new project that will be finalized by the Loan effectiveness. Key internal controls to be applied for the project include: (i) appropriate authorizations and approvals; (ii) segregation of duties (with no single person having the responsibility for all phases of transaction); (iii) regular reconciliations between records and actual balances, as well as with third parties; and (iv) complete original documentation to support project transactions. Additional controls are required to ensure that the funds flow to selected beneficiaries and that the funds are used for intended purposes and are detailed in operations manual and in the financial manual as part of the operations manual. The controls include:

- (a) appropriate procedures for selection of beneficiaries (staff that performs evaluation, the procedure and criteria, summary reports);
- (b) transparency of flow of funds - need for information about the transferred funds, together with





supporting documentation, including statements of accounts (MOF account within TSA, Designated account) to be submitted to the PIU from the Treasury. The PIU will include detailed information in the quarterly IFRs;

(c) reporting back to the PIU - on the executed transfers from the MoF account, and to beneficiaries (supporting documentation, such as evidence of bank transfer confirming bank account owner, account statements, and financial reports of the beneficiaries).

13. **External Audit.** The implementing entity follows audit requirements of the existing WB financed projects. MoF is audited by the North Macedonian State Audit Office (SAO) as any other government entity. However, as the capacity of the SAO for conducting efficient financial audit is still quite limited, the project's financial statements will be audited in accordance with terms of reference acceptable to the Bank by a private sector audit company acceptable to the Bank, and the audit report will be submitted to the Bank at the latest six months after the end of the period audited. The annual cost of the audits of the project will be covered by the project funds.

14. **Flow of funds and disbursement arrangements.** The transaction-based disbursement method will be used for the Project. Once the Project becomes effective a Designated Account will be opened in the NBRNM, to which the funds will be transferred. A mirror MKD (Macedonian Denar) account will be opened within the Treasury Single Account to serve as an operating account for withdrawals from the foreign currency account. The Designated Account will be managed and operated by the PIU with the authorized signatories, which include a ministerial (MoF) representative. All transfers will take place through it, with a corresponding transfer of the Denar-equivalent amount from the foreign exchange account.

15. Municipalities which are sub-loans or sub-grants beneficiaries will open Denar accounts within the Treasury Single Account, to which the funds will flow from the Designated Accounts (passing through the mirror Denar account), and from which the funds will flow to suppliers/contractors. Separate accounts and records will be kept if a municipality accesses several sub-loans/grants under PSEEP. The procedures relating to the flow of funds, including paths for authorization and approval of payments will be described in detail in the updated Financial Management section of the POM. The procedures should clearly describe all steps of the process, as well as authorized signatories for administering the account funds. Bank Statements showing turnover and balance on the Denar sub-account will be submitted on daily basis. The PIU will include balances on all project related accounts in the quarterly IFRs.

16. The Ceiling for the Designated Account will be indicated in the Disbursement Letter to be agreed at negotiations. Applications for replenishment of the Designated Account will be submitted at least quarterly or when one-third of the amount has been withdrawn, whichever occurs earlier. Documentation requirements for replenishment would follow standard Bank procedures as described in the Disbursement Handbook. Bank statements of the Designated Account, which have been reconciled, would accompany all replenishment requests.

### **Procurement Arrangements**

17. **Procurement Policy and Procedures.** The Bank's Procurement Framework (PF) effective as of July 1, 2016 will be governing procurement under the proposed project. Procurement of contracts for goods, works non-consulting and consulting services financed from the project, will be carried out in accordance with the World Bank Procurement Regulations for Investment Project Financing (IPF) Borrowers - Procurement in IPF of Goods, Works, Non - Consulting and Consulting Services, (Regulations) issued in July 2016, revised November 2017 and August 2018<sup>[1]</sup>.



18. **Procurement Documents.** The Bank's Standard Procurement Documents (SPD) will be used as required by the Regulations. They are all accessible at [www.worldbank.org/procurement](http://www.worldbank.org/procurement)
19. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will be subject to using the Bank's electronic platform *STEP*. It will be used by the PIU initially to create and later to revise Procurement Plan for the project, and to monitor performance, manage procurement procedures and store related documentation for all steps in a procurement activity.
20. **Publication of procurement policies.** The General Procurement Notice (GPN) and all procurement notices for contracts following international market approach will be also published in United Nations Development Business (UNDB) and on the World Bank's external website through STEP. Procurement notices for contracts following national market approach will be published on the electronic system for public procurement, hosted by the Public Procurement Bureau at <https://e-nabavki.gov.mk/PublicAccess/Home.aspx#/home>, and/or national newspapers with wide daily circulation.
21. **Project Procurement Strategy for Development.** As required by the PF, a Project Procurement Strategy for Development (PPSD) was prepared. The PPSD is the basis for the procurement arrangements under the project. The short form of PPSD is used and it includes details on Project overview, strategic assessment of the operating context and Borrower's capability to manage procurement, procurement risk analysis, procurement objectives, procurement approach options and recommendations, preferred arrangements for low value low risk contracts, and a summary procurement plan. The PPSD addresses how procurement activities will support the development objectives of the project and deliver the best value for money under a risk-based approach. It also provides an adequate justification for the selection methods in the Procurement Plan. The level of details and analysis in the PPSD are proportionate to the risk, value and complexity of the project procurement. The PPSD also provides information on the procurement specific risks and the proposed mitigation measures. The proposed procurement and review thresholds applicable to the project shall be aligned with the Bank's most recent Thresholds for Procurement Approaches and Methods. The procurement and review thresholds relevant for the project are indicated in the PPSD. Accordingly, an initial Procurement Plan is prepared and agreed with the Bank for the first 18 months of the Project.
22. **Capacity assessment.** The Project will be implemented by a Project Implementation Unit (PIU) within the Ministry of Finance, which currently manages three World Bank financed projects. The Bank's Procurement Specialist assigned to the project, conducted a review of the capacity of the implementing agency in order to establish the overall risk for managing procurement and based on it to propose mitigating measures for enhancing the capacity of the agency. This review showed that the PIU has substantial experience in World Bank procurement procedures and has shown satisfactory performance in procurement for World Bank-financed projects. It has a solid management structure and is staffed with one experienced procurement specialist managing procurement under the current three operations, assisted by procurement assistant. Diligence is also observed in record keeping and quality of evaluation. The procurement processing and contract management was rated Satisfactory. The implementing agency is familiar with the World Bank's procurement documents and procedures; however, continuous training on the New Procurement Framework is needed. According to the project implementation arrangements, the PIU will issue periodic Calls for Proposals to municipalities, inviting them to submit potential building and street lighting projects for support under the Project. The PIU will screen applications to ensure the eligibility criteria have been met and then enter into project initiation agreements with the selected municipalities. The PIU will then procure energy audits and technical designs and discuss and agree



on the scope of the investment with each municipality. The PIU would then enter into loan agreements with the municipalities prior to the municipalities issuing the tender documents for the renovation works. The loan agreement would be adjusted based on the final contract price and any unforeseen over- or under-runs during the renovation phase.

23. **Frequency of procurement supervision and oversight.** Based on the capacity of the implementing agency and the moderate risk rate for procurement, procurement implementation support missions will be carried out once a year. The procurement plan indicates the review arrangements for each contract to be financed from the loan proceeds. Contracts not subject to prior review by the Bank, will be post reviewed by the Bank’s procurement specialist, assigned to the project. Post review of contracts shall be carried out once a year. At a minimum 1 out of 10 contracts will be randomly selected for post review.

24. **Procurement risk analysis.** Overall risk analysis is rated *Moderate* based on the capacity of the implementing agency, and its experience in overall infrastructure projects; on the composition of the market place with an acceptable competition and availability of contractors; and, finally, on the nature of the project activities that are not complex or sophisticated.

25. The primary beneficiaries of this project will be the Municipalities in Republic of North Macedonia as well as Government Ministries and Agencies. The number of institutions included in this project can slow down implementation progress by increasing the amount of time and effort required to ensure proper consultation and ownership of reforms and to troubleshoot during reform implementation. The proposed Project will mitigate this risk by assigning team comprised of representatives from all the institutions, who have clear vision about the goals, strong commitment and management support. Periodic management meetings led by the PIU with each of the beneficiaries shall be organized in order to inform them and ensure their participation in the planning and in the implementation process. The procurement specific risks, the proposed mitigating measures and the risk owner are indicated in the table below:

Risk Description	Description of Mitigation	Risk Owner
<b>1. Identifying the needs and planning the procurement</b>		
<u>Limited capacity of the beneficiaries</u> to accurately assess their needs.	To engage experts whenever there is a need for development of specific technical specifications and ToRs.	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<b>2. Developing the technical specifications, technical requirements and terms of reference</b>		
<u>Predisposed specifications</u> , having as possible consequences: low competition, claims, cancellation of procurement procedure.	Use functional and performance specifications To engage experts whenever there is a need for development of specific technical specifications and ToRs.	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies



<b>3. Procurement Documents</b>		
<u>Providing inadequate information</u> , having as possible consequences: variations in bids prices, increased number of clarification requests from the Bidders causing delays in tender closing; cancellation of procedure	Ensure trained and experienced staff under PIU Use of Bank's standard procurement documents Carefully review of the procurement documents Ensure accurate and transparent evaluation and qualification criteria	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<b>4. Launching, clarifying, evaluating of Bids and awarding the contracts</b>		
<u>Favoritism in providing information</u> , having as possible consequences: complaints from Bidders; withdrawal of Bids, cancellation of selection procedure	Answer to all clarification requests in writing to all Bidders Ensure that all potential bidders are provided in timely manner with the procurement documents and any addenda	PIU
<u>Breach of confidentiality</u> , having as possible consequences: complaints from Bidders; withdrawal of Bids, cancellation of selection procedure, mistrust of Bidders, lack of competition	Train staff and evaluation committee member in their obligations Evaluation Committee members to sign declaration of impartiality/lack of conflict of interest.	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<u>Low competition</u> , having as possible consequences: need to delay or to re-launch the procurement process, poor value for money due to limited competition.	Correctly and transparently advertise the Bidding procedure, including by using for publication the Public Procurement Bureau's portal for Electronic Public Procurement System (EPPS), and websites of MLSP and relevant project beneficiary institutions, as well as municipalities. Develop list of companies to be directly approached Provide potential bidders with advance notice of tender requests Improve tender documentation and specifications Allow sufficient time for tenderers to respond	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<b>5. Selecting the successful bidder</b>		
<u>Award the contract to an</u>	Ensure that the Evaluation	PIU and Project Beneficiaries: MoF,



<u>inappropriate bidder</u> , having as possible consequences: failure to fulfill the contract, termination of the contract.	Committee members have appropriate experience in carrying out evaluation and suitable financial and technical skills The evaluation criteria to be clearly identified and described	Municipalities, Government Ministries and Agencies
<b>6. Negotiations</b>		
<u>Failure to successfully finalize negotiations</u> , resulting in the following: disputes, delays, reduction in value for money, purchase of less suitable goods/services, inefficient use of resources, need to restart procurement	Include accurate Conditions of Contract in the procurement documents Negotiations to be carried out by trained and experienced staff Clarify all ambiguities before signing the contract	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<b>7. Contract management</b>		
<u>Failure of either party to fulfill the conditions of the contract</u> , having as possible consequences: contract disputes, failure to fulfill the contract objective, delays in delivery, legal action	Each relevant party should dedicate appropriate and adequate resources to ensure that the contract is implemented as per agreed terms and conditions Hold regular inspections / meetings and ensure progress reports Ensure all staff know responsibilities and conditions Ensure good record keeping and documentation	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<u>Inadequately administering the contract</u> , having as possible consequences: cost increases, failure of contract, failure to fulfill the contract objective, contract/supply disputes	Ensure all staff are suitably trained and experienced in contract planning and management	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies
<u>Fraud</u> , having as possible consequences: misuse of funds, legal action, disruption to procurement activities	Maintain an ethical environment Follow and maintain fraud control procedures	PIU and Project Beneficiaries: MoF, Municipalities, Government Ministries and Agencies

<sup>[1]</sup> <http://pubdocs.worldbank.org/en/178331533065871195/Procurement-Regulations.pdf>

**Environmental Safeguards**

26. The current MSIP PIU has gained good knowledge of, and considerable experience in ensuring the environmental and social compliance of the World Bank-funded projects. There is a full-time designated Environmental and Social specialist (E&S Specialist) in the PIU who ensures environmental compliance of the



project/sub-projects, including day-to-day supervision, guidance to sub-project applicants, review of documents and providing inputs to the PIU Director. Since the E&S Specialist is experienced primarily with the requirements of the World Bank safeguard policies and has not yet had any exposure to the new Environmental and Social Framework (ESF), customized training (on line e-course on the ESF) is required. With this capacity building measure, and some additional technical staff, the capacity of the PIU is found satisfactory for the proposed new project. A Coordination Committee consisting of representatives of related ministries and agencies will be established to approve the final selection of sub-projects to be financed. The members of the Committee will apply the selection/screening criteria to be determined by the project ESMF. As such, the members of the Committee shall be aware of World Bank's ESSs and requirements applied to the project activities, as the quality of the environmental and social due diligence of sub-projects will factor the decision-making and approval process. The satisfactory capacity applies also for the social issue as the project will be implemented by the ongoing Municipal Services Improvement Project. The PIU has well established protocol and procedures for environmental and social due diligence and monitoring for the Municipal Project which has much wider scope of investments, in addition to EE measures in local government buildings.

### **Social Safeguards**

27. 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 who 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.

### **Gender**

28. North Macedonia is characterized by large gender disparities in the labor market, and women are disproportionately impacted by the overall challenging labor market situation in the country. Some of the key aspects disproportionately impacting women's employment challenges include: higher inactivity, lower wages, and higher poverty rates among others. In North Macedonia, the women's employment rate is 18 percentage points lower than that of men for 15–64- year-olds, mainly driven by the gap in labor force participation, which was 26 percentage points lower for women in 2015. At 51 percent, women's labor force participation in North Macedonia is 14 percentage points lower than the EU average. The gap persists throughout the life cycle and is higher than in most other Europe and Central Asia (ECA) countries.

29. According to official statistics, the number of women enrolled and graduated from the first, second and third cycle is generally higher in social sciences, humanities and medical sciences, while in technical and technological sciences male students outnumber female students close to 20 percent at tertiary level, and about 10 percent at post-graduate levels. According to a 2016 USAID report titled *Engendering Utilities: Improving Gender Diversity In Power Sector Utilities*, EVN Macedonia, the country's power utility and one of the largest employers in the energy sector (about 1,000 employees) employs about 19.6 percent women among its workforce, with 21.1 percent of the utility's engineers in the company being women. Only about 3.4 percent of women work in the technical field operations department, which is the largest department in the company (430 employees).

30. The project will address an employment gap in the energy sector through providing women a targeted training program and increasing awareness about employment opportunities under the project investments. The project will engage with industry associations and technical universities to increase awareness and information about the project's offerings, in particular employment opportunities created under technical and design work related to project investments. Furthermore, the project will offer skills training to women, which will be based



on skills requirements needed for technical and design work under the project. The Project will monitor the impact through the following indicators: (i) number of women attended skills training activities and certifications obtained and (ii) percentage of female staff hired under service contracts for technical and design work.

### **Citizen Engagement**

31. The Project was designed to consider feedback from project beneficiaries. Within the sub-project level (schools, clinics or other public buildings to be retrofitted) a user committee will be formed to provide feedback for the selected sub-project during the three stages of the subproject: the technical design stage, the renovation phase and the acceptance and commissioning stage. The feedback mechanism may include a scorecard or qualitative assessment on the satisfaction of the user committees to provide feedback. At the Project level, consultations will be organized with stakeholders such as MoE, the Energy Agency, ZELS, MoH and Ministry of Education as well as municipalities/mayors. The stakeholders will be informed on the implementation progress of the Project, invited to share feedback and solicited to exchange views on implementation challenges. A Grievance Readdress Mechanism will have possibilities for submitting complaints at the sub-project level, be it local or through centrally established mechanism.

32. The PIU will facilitate establishment of user committees for each sub-project. In each building, user committees will participate in the subproject process and represent different user groups (i.e., employees, patients, students). These user committees will: (i) enable a structured interface with the PIU and contractors; (ii) assist in channeling information to their constituents; and (iii) enable all of their constituents to organize and channel their feedback through a formal and accountable mechanism. Further, the user committees will be engaged in each building in a participatory process of needs assessments (i.e. if there can be extra improvement such as accessibility), prioritization (if necessary) and user-monitoring. The committees will implement an annual user scorecard of the users they represent to obtain feedback from them on issues concerning the renovation process (e.g., inconvenience, accessibility, contractor performance, cleanliness, etc.), and outcomes (increase in comfort during winter and summer months, etc.). CE indicator will measure the engagement of the building users and satisfaction with the renovation process (municipalities/sub-projects reporting the annual scorecards). Corrective action will be taken to address issues raised through the feedback process. This will be communicated through the user committees, posted on noticeboards and uploaded on the Project website.

### **GRM**

33. In compliance with the World Bank's ESS10 requirement, a specific grievance mechanism will be set-up for the project. Dedicated communication materials (GRM pamphlets, posters) will be created to help local residents familiarize themselves with the grievance redress channels and procedures. A GRM guidebook/manual will also be developed and suggestion boxes installed in each affected municipality. In order to capture and track grievances received under the project, a dedicated GRM Management Information System/database/ register is planned. The MoF website will include clear information on how feedback, questions, comments, concerns and grievances can be submitted by any stakeholder and will include the possibility to submit grievances electronically. It will also provide information on the way the GRM committee works, both in terms of process and deadlines. PIU within the MoF will implement a Grievance Mechanism to ensure that it is responsive to any concerns and complaints particularly from affected stakeholders and communities. A grievance mechanism will be implemented to ensure that the PIU/Contractor is responsive to any concerns and complaints particularly from affected stakeholders and communities.



**ANNEX 2: Team List**

<b>Bank Staff Name</b>	<b>Role</b>	<b>Specialization</b>	<b>Unit</b>
Rhedon Begolli	Team Leader (ADM Responsible)	Energy	IECE1
Jasneet Singh	Team Leader	Energy efficiency	IECE1
Zijun Li	Carbon Finance Specialist		SCCFM
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Bekim Imeri	Sr. Social Specialist (ADM Responsible)	Social	SCASO
Gulana Enar Hajiyeva	Sr. Environmental Specialist (ADM Responsible)	Environment	SCAEN
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Jacqueline Beatriz Veloz Lockward	Associate Counsel	Legal	LEGLE
Luan Aliu	Team member		ECCMK
Wazhma Khalili Raheem	Team member		IECE1
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