



# Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 15-Nov-2019 | Report No: ISDSA27613

**BASIC INFORMATION****A. Basic Project Data**

Country North Macedonia	Project ID P149990	Project Name North Macedonia Public Sector Energy Efficiency Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 18-Nov-2019	Estimated Board Date 31-Jan-2020	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) North Macedonia	Implementing Agency Ministry of Finance	

## Proposed Development Objective(s)

20. 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

Energy efficiency investments in the public sector  
 Technical assistance and implementation support  
 Initial capital for the proposed Energy Efficiency Fund.

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

<b>Total Project Cost</b>	27.70
<b>Total Financing</b>	27.70
<b>of which IBRD/IDA</b>	27.70
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	27.70
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Environmental and Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

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Other Decision (as needed)



## **B. Introduction and Context**



## 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.** 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. 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. 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.
- 3. North Macedonia has a good track record of sound macroeconomic management and business environment reforms.** The country managed to decrease public debt from 45.7 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 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 2.7 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.
- 4. 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, 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.

5. **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.

6. **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) was endorsed in April 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 public finance challenges including in pensions, modernize agriculture, improve energy efficiency of public buildings, and improve connectivity by investing in local roads.

## Sectoral and Institutional Context

7. **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

<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/>



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.

**8. GoNM has already begun to tap its vast potential for energy efficiency and plans further investments in the public sector.** 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.

**9. The government is now finalizing a comprehensive Law on Energy Efficiency.** A draft Law on Energy Efficiency was prepared in 2018 and was approved by the Government on October 8 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.

**10. 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. Most of the power generation for the regulated market came from the state-owned company ESM. But obligations under the Energy



Community Treaty require 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. 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. Furthermore, the new Energy Law foresees several sector reforms, including deregulation of power generation and supply markets, which will allow all electricity and natural gas customers to freely choose their supplier. The wholesale electricity supply of state-owned ESM to the Universal Service Supplier (USS) will gradually be deregulated over the course of seven years. 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 unlikely to represent its true cost.
- (iii) **District heating.** For District Heating (DH), BEG consumers are subject to 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
- (a) **Access to financing.** Central government buildings typically have very limited budgetary provisions for capital improvements, if any, and usually are not allowed to borrow. North Macedonian 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. In addition, commercial banks have shied away from lending to municipalities that may not have collateral and rely predominantly on national budget transfers. The Bank's Urban team is now undertaking a review of municipal credit and requirements to support the longer-term financial viability for commercial financing for this sector.
- (b) **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.



- (c) *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.
- (d) *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.

11. **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), 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 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 2014 *Green Growth Country Assessment* also identified quick wins in terms of climate change mitigation in the areas of energy efficiency and water conservation.

12. **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 Elektrani na Severna Makedonija (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.

13. **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.

**C. Proposed Development Objective(s)**

Development Objective(s) (From PAD)

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.

Key Results

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

**D. Project Description**

Legal Operational Policies

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

Summary of Assessment of Environmental and Social Risks and Impacts

Nature and scale of risks is the same as one foreseen during the concept stage. The environmental risks to be considered during the project preparation are mainly those related to the renovation and further operation of public buildings, which may include generation of wastes, including hazardous, noise, dust, disturbance to local communities and landscapes. The specific impacts cannot be pre-determined as will be identified as part of the development of ESMPs for each specific site where civil works will be implemented. Some Social risks related to OHS of works could happen if the work protection measures are not applied properly. The ongoing PIU implementing the MSIP with extra hiring of the engineers will implement the new project. The ongoing PIU has a full time environment and social staff who, together with the project engineers, will do oversight of the implementation of the OHS measures for the



workers.

## **E. Implementation**

### Institutional and Implementation Arrangements

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 Ministry of Economy will serve as a technical lead for a portion of the TA under Component 2, related to 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) ESF ESSs and corporate (e.g., gender, citizen engagement) compliance; and (vi) Project monitoring and reporting. A Coordinating Committee for the Project will be established to approval annual investment plans and would include a range of public and nongovernment entities (e.g., Ministries of Finance, Economy, Education, Health, Local Self-Government and the Municipal Association – ZELS, etc.).

## **CONTACT POINT**

### **World Bank**

Rhedon Begolli  
Senior Energy Specialist

Jasneet Singh  
Lead Energy Specialist

### **Borrower/Client/Recipient**

North Macedonia  
Suzana Peneva  
State Advisor  
suzana.stoimceva@finance.gov.mk

### **Implementing Agencies**

Ministry of Finance  
Suzana Peneva  
State Advisor  
suzana.stoimceva@finance.gov.mk



**FOR MORE INFORMATION CONTACT**

The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 473-1000  
Web: <http://www.worldbank.org/projects>

**APPROVAL**

Task Team Leader(s):	Rhedon Begolli Jasneet Singh
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**Approved By**

Environmental and Social Standards Advisor:		
Practice Manager/Manager:		
Country Director:	Lada Strelkova	19-Nov-2019