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# Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 02-Apr-2024 | Report No: PIDA0274

Public Disclosure Authorized

## BASIC INFORMATION

### A. Basic Project Data

| Project Beneficiary(ies) | Region | Operation ID | Operation Name |
|---|---|---|---|
| Moldova, Moldova | EUROPE AND CENTRAL ASIA | P500560 | Sustainable Transition through Energy Efficiency in Moldova (STEEM) |
| **Financing Instrument** | **Estimated Appraisal Date** | **Estimated Approval Date** | **Practice Area (Lead)** |
| Investment Project Financing (IPF) | 08-Apr-2024 | 30-May-2024 | Energy & Extractives |
| **Borrower(s)** | **Implementing Agency** | | |
| Republic of Moldova | Moldova Project Implementation Unit (MPIU), Ministry of Energy | | |

Proposed Development Objective(s)

To enhance energy efficiency in existing public buildings and the district heating sector in Moldova and provide immediate and effective response to an eligible crisis or emergency.

**Components**

Energy efficiency investments in public buildings
Implementation support and technical assistance
Contingent emergency response component

## PROJECT FINANCING DATA (US$, Millions)

### Maximizing Finance for Development

| | |
|---|---|
| **Is this an MFD-Enabling Project (MFD-EP)?** | Yes |
| **Is this project Private Capital Enabling (PCE)?** | Yes |

### SUMMARY

| | |
|---|---|
| **Total Operation Cost** | **54.50** |
| **Total Financing** | **54.50** |
| **of which IBRD/IDA** | **50.00** |
| **Financing Gap** | **0.00** |

**DETAILS**

**World Bank Group Financing**

| | |
|---|---|
| International Bank for Reconstruction and Development (IBRD) | 50.00 |

**Non-World Bank Group Financing**

| | |
|---|---|
| Trust Funds | 4.50 |
| Special Financing | 4.50 |

Environmental And Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

## B. Introduction and Context

Country Context

1. **Despite decades of strong yet volatile economic growth, Moldova remains one of the poorest countries in Europe.** Between the late 1990s and 2019, per capita GDP expanded at an average annual pace of 4.9 percent. Solid growth resulted in strong poverty reduction, from close to 90 percent in the late 1990s to 13 percent by 2018.[1] Despite progress in poverty reduction, the pace of poverty reduction has generally slowed in recent years. Poverty increased from 14.7 percent to 15.5 percent between 2019 and 2020 as a result of the COVID-19 pandemic before falling to 14.4 percent in line with the general economic recovery. However, the sharp rise in energy and food prices in 2022 is expected to negatively affect the pace of poverty reduction. Following contraction in 2022, growth remained negative in the first half of 2023. However, a modest recovery is expected in 2023, with growth projected at 2 percent and recovery expected to gain traction in 2024[2].

2. **Faced with complex security and climate crisis, Moldova adopted the national development strategy "European Moldova 2030" (NDS) to pave the way for a resilient and sustainable development future.** The NDS goal is to modernize political and social-economic life, bringing the Republic of Moldova closer to EU standards. Based on the United Nations Sustainable Development Agenda and 2030 Agenda, the NDS proposes targets to operationalize these objectives. Among them, the transition to a green economy through the promotion of renewable energy and energy efficiency have a prominent role.

[1] World Bank, Systematic Country Diagnostic Update, 2021.
[2] IMF, Press release No 23/356, October 2023.

3. **The recent steep increase in energy prices has also highlighted Moldova's vulnerability to energy shocks.** Ensuring energy security, reliability, affordability, efficiency, and predictability remains a challenge for Moldova's resilience and long-term competitiveness, as demonstrated by the recent gas crisis. A successful transition to a new growth model will require both addressing high energy intensity and reliance on a single-source for energy imports, while taking advantage of the EU green deal.

## Sectoral and Institutional Context

4. **Moldova is almost entirely dependent on fossil fuel and electricity imports.** Only 20 percent of its energy demand is covered by domestic production, consisting mostly of solid biomass.[3] Natural gas accounts for more than half of Moldova's total primary energy supply (53 percent in 2018), oil roughly a quarter (23 percent in 2018) and solid biomass one-fifth (19 percent in 2018). Most natural gas is used for electricity and heat generation, whereas oil is the most important energy source for final consumers, particularly in the transport sector.

5. **Energy efficiency is a critical Government priority in the National Energy and Climate Plan (NECP) to address energy security cost-effectively, while contributing to combat climate change and address energy poverty.** The NECP expected to be approved in first half 2024, puts forward a Buildings Renovation Strategy to improve energy efficiency (EE) in public and residential buildings and reduce GHG emissions. The strategy is expected to bring between 3 to 7 percent of primary energy savings. The NECP builds on the 2030 Energy Strategy of Moldova which sets specific targets to reduce energy intensity and energy consumption of buildings.

6. **Buildings represent about 60 percent of the total final energy consumption in Moldova.** While public buildings represent a small fraction of the total (20 percent), a targeted energy efficiency (EE) program would strengthen the capacity of key stakeholders, e.g., auditors, contractors, and help create a sustainable market that could be expanded to the residential sector. Among public buildings, the education sector represents almost 67 percent of the total energy consumption, while health and administrative buildings represent 22 and 11 percent, respectively. In the short term, there is a need to reduce energy consumption as much as possible by direct public financing of EE in public buildings to increase energy security in Moldova and develop the EE market. In parallel, a Super ESCO model for public buildings is expected to be piloted with the support of a US$1 million grant by USAID. The Super ESCO would be established as a governmental entity with a mandate to aggregate private ESCO projects for financing. Such models typically reduce transaction costs and increase economies of scale for EE works and services. The approach also seeks to demonstrate and establish a good commercial basis for EE projects with attractive Returns on Investment. The initial pilot phase (through 2026) will be implemented in parallel to the proposed project, which will provide support to the Super ESCO through EE audits to unlock energy savings potential and needed technical assistance to the newly created National Center for Sustainable Energy (NCSE). The Super ESCO program will also involve the creation of a revolving mechanism that will capture part of the savings to be used for future investments. This, together with other policies and mechanisms focused on the residential market are expected to provide a strong enabling environment for the scale-up EE investment in Moldova.

7. **The public utility Termoelectrica plays a key role in improving energy efficiency in the energy sector**. The company supplies around 87 percent of Chisinau's district heating and provides heat and hot water to 4,397 buildings, including 483 public buildings and 3,122 residential buildings. The closed World Bank-financed District Heating Efficiency Improvement Project (P132443) and ongoing Second District Heating Efficiency Improvement Project (P172668) provided support to Termoelectrica to improve the efficiency of the district heating sector, particularly in

[3] IEA, Republic of Moldova: Energy Profile, 2020.

upgrading co-generation plants. Building on the experience from these two projects, Termoelectrica has put forward a EUR 110 million plan to roll-out Individual Heating substations (IHS)[16] as a strategic investment to improve the performance and client service of the district heating system.

## C. Proposed Development Objective(s)

### Program Development Objectives

8. Sustainable Transition through Energy Efficiency in Moldova Project (P500560) is Phase 1 of the Multiphase Programmatic Approach of the Scaling-Up Energy Efficiency in Europe and Central Asia (E3) Program. The proposed E3 MPA will provide US$1.5 billion in IBRD and IDA financing, and leverage US$2.5 billion in government counterparts, partners, concessional financing and private capital; be structured along four pillars reflecting priorities in the public, residential, industry and DH sectors; span a 6-year commitment period and a 10-year implementation period. Phase 1 also includes the proposed Türkiye Second Energy Efficiency in Public Buildings (P500777).

9. The Program Development Objective is to increase energy efficiency savings in participating client countries of the Europe and Central Asia region and develop enabling policies and programs for the scale-up of energy efficiency.

### Project Development Objectives

10. The Project Development Objective is to enhance energy efficiency in existing public buildings and the district heating sector in Moldova and provide immediate and effective response to an eligible crisis or emergency.

### Key Results

11. The progress towards achieving the PDO will be measured by the following indicators:
    (a) Projected energy or fuel savings (CRI; Mega Joules (MJ));
    (b) Lifetime net greenhouse gas (GHG) emissions reduction (Metric tons).

## D. Project Description

12. **Component 1 – EE investments in public buildings**

    (a) **Sub-component 1.1. EE renovation in education buildings.** This sub-component will finance the retrofit of 46 schools across the country, including: (i) standard energy efficient retrofit measures, such as thermal insulating of wall and roof, replacing windows and doors, renovation of internal heating system, and replacement of lighting using well-proven technologies and equipment for energy efficiency improvements in end-use application, and (ii) installation of heat pumps, solar thermal collectors and rooftop solar PV if technically feasible and economically viable.

    (b) **Sub-component 1.2. District heating upgrades.** This sub-component will finance improvements in the heat supply by central district heating (DH) in public buildings and 11 schools financed under sub-component 1.1. Public buildings and schools will be enhanced through the installation of 200-250 individual heat substations (IHS) at building level and associated DH network reconfiguration, as well as the construction of two DH pumping stations. The public utility Termoelectrica will be responsible for the supervision of works and will provide regular status updates to the MEPIU. DH network reconfiguration comprises minor DH

distribution pipeline replacement (few hundred meters, including valves) from the old central DH heating point to the new building-based IHS.

(c) **Sub-component 1.3. Technical assistance to contribute to the operationalization of a sustainable financing mechanism for EE.** The sub-component will support on-going Government's efforts to operationalize a USAID-led Super ESCO program, including its initial setup phase by financing: (i) operating costs and marketing activities of the mechanism, and (ii) energy audits, detailed designs and technical specifications, technical reviews, construction supervision, energy performance certificates and other technical studies.

13. **Component 2 – Implementation support and technical assistance.** This component will include: (i) MEPIU staff and operational costs; (ii) capacity building for staff at Ministry of Energy (MoE), National Center for Sustainable Energy (CNED), Termoelectrica SA (TE) and MEPIU; (iii) supply and installation of Energy information system at CNED; (iv) detailed energy audits in education buildings selected in sub-component 1.1.; and (v) other technical assistance, study tours and workshops. This component is expected to contribute to the creation of new incentives for EE and increase private sector participation in EE projects and helping Moldova to reach scale in EE investments in a sustainable manner.

14. **Component 3 – Contingent emergency response component.** This component would have zero allocation of financing to allow for rapid reallocation of proceeds of uncommitted financing in the event of an eligible crisis or emergency. For the CERC to be activated, and financing to be provided, the Government of Moldova will need to (a) submit a request letter for CERC activation and the evidence required to determine the eligibility of the emergency, as defined in the CERC manual; (b) have an Emergency Action Plan, including the emergency expenditures to be financed; and (c) meet the E&S requirements as agreed in the Emergency Action Plan and related E&S instruments.

| Legal Operational Policies | Triggered? |
|---|---|
| Projects on International Waterways OP 7.50 | No |
| Projects in Disputed Area OP 7.60 | No |

Summary of Screening of Environmental and Social Risks and Impacts

15. **The following Environmental and Social Standards (ESSs) are considered relevant to the project:** ESS 1, Assessment and Management of Environmental and Social Risks and Impacts; ESS 2, Labor and Working Conditions; ESS 3, Resource Efficiency and Pollution Prevention and Management; ESS 4, Community Health and Safety and ESS 10, Stakeholder Engagement and Information Disclosure.

16. **The project E&S risks are both rated as Moderate.** The project is not expected to have significant adverse environmental or social risks and/or impacts. The project supports energy efficiency (EE) renovation in public buildings and Individual Heating Substations (IHS) and network upgrades to reduce energy use, to optimize the efficiency of the district heating system and improve the quality of service. As such, the project will result in positive impacts in terms of energy conservation, reduction of GHG emissions and air pollution, and will also contribute to improved health outcomes and social sustainability. Building renovations could bring between 45-70 percent energy savings and

comparable CO2 emission reductions. However, short-term risks are mostly related to small-scale civil works within existing facilities (public buildings – schools, administrative institutions; multi-apartment buildings and individual district heating systems and earth-moving works to upgrade/reconfigure short sections of district heating networks) under Component 1 and 2. Component 3 pilot projects, also to be overseen by the PIU, will entail similar energy efficiency upgrades to public buildings. Project implementing agency (MEPIU) has previous experience implementing projects to the ESF standards. While solar panels are eligible, they will not be core for this operation.

17. The environmental related impacts are expected to be predictable, temporary, low in magnitude, and site specific without likelihood of impacts beyond the actual footprint of the project, reversible, and manageable in a predictable manner through the implementation of cost-effective mitigation measures in line with the national laws as well as the use of the World Bank Environmental & Social Standards (ESS), Environmental, Health, and Safety Guidelines (EHSG) and Good International Industrial Practices (GIIP). The main environmental risks in this regard could be identified as: (a) impacts on ground and surface water, soil, and air contamination (dust and noise); (b) occupational health and safety (OHS) issues and access to work sites of residential population, staff and personnel as well as visitors during construction works; (c) inadequate waste management including hazardous waste (potentially of asbestos containing material) during construction works; (d) traffic disruption in residential areas (depending upon specific location), transport and traffic safety at construction sites; (e) old electrical appliances; etc. Environmental issues likely to be associated with the activities under Component 2 for the upgrading of IHS and related networks will include: noise generation; impact on soil and on water by the construction works; disturbance of traffic during construction and rehabilitation works; construction dust and wastes; finding and handling of hazardous materials (e.g. asbestos insulation) and workers' safety.

18. **Social risks of the project are considered Moderate.** The social risk is classified as moderate and are primarily related to Component 1. Social risks associated with energy efficiency upgrades in educational facilities and public administration buildings are small scale and contained within site boundaries. Extension and rehabilitation of existing pipelines for district heating upgrades will take place within existing rights of way in urban or peri urban neighborhoods in Chisinau, and do not require land acquisition. Social risks or tensions may arise if information about the building/school selection process is not adequately disclosed and consulted and is therefore perceived as unfair. Limited potential adverse social impacts during works include service disruptions and access restrictions, particularly for vulnerable groups; and temporary traffic disturbances. Works will mainly take place in buildings by small crews of qualified technicians. Risks of inadequate labor and working conditions for the workforce and occupational health and safety risks for workers will be adequately managed through labor management procedures consistent with national law and World Bank ESS2. Given size and nature of works and work crews in supervised environments, the risk of sexual exploitation and abuse/sexual harassment (SEA/SH) associated with the Project's activities is assessed as low. However preventative measures are required given works in possible proximity to children in schools and will include labor codes of conduct and a grievance mechanism with measures for referral to specialized service providers. Forced labor in the global supply chain is an indirect risk associated with the solar panels and components procured and deployed for renewable energy generation. Applicable provisions and Forced Labor Performance Declarations will be included in procurement documentation to mitigate this risk.

## E. Implementation

Institutional and Implementation Arrangements

19. **The project will rely on the same implementing entity and similar implementation arrangements as the two on-going World Bank-funded projects: Second District Heating Efficiency Improvement Project (P172668) and Power System Development Project (P160829).** The Ministry of Finance, as the Borrower of the World Bank loan, will enter into an Implementation agreement with the Ministry of Energy, the central administration authority responsible for the project, which will delegate day-to-day implementation to its Moldova Energy Projects Implementation Unit (MEPIU). The MEPIU established under the Government Decision no. 1276 of December 21, 2000, as an independent legal entity, will hold fiduciary, environmental and social responsibilities vis-à-vis the World Bank. The National Center for Sustainable Energy (NCSE) will support the MEPIU in all technical aspects related to sub-component 1.1 and 1.3, while Termoelectrica will provide support in sub-component 1.2. The NCSE and Termoelectrica staff will have close collaboration with the MEPIU during all procurement processes of respective sub-components and monitoring of works. The MEPIU includes 12 in-house staff including: Director, Monitoring and Evaluation Expert, Electrical engineer, Environmental engineer, Procurement Specialist, two financial management experts and lawyer. The MEPIU plans to recruit five additional staff to strengthen key positions, i.e. procurement and social development, to implement the project while maximizing synergies with current staff engaged with on-going projects.

## CONTACT POINT

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## APPROVAL

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| | | |
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| Practice Manager/Manager: | Roger Coma Cunill | 08-Apr-2024 |
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