

Non-Technical Summary (NTS), GrCF3 W2 Energy Efficiency Project, ESM North Macedonia

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on behalf of
the European Bank for Reconstruction and Development and
Elektrani na Severna Makedonija

16 November 2026

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1 Project Description

The European Bank for Reconstruction and Development (EBRD) is considering a loan to Elektrani na Severna Makedonija (ESM) as part of GrCF3 W2. This ESM Energy Efficiency Project is targeting substantial energy efficiency improvements over two main components as follows:

- **Component 1** - Renovation and energy efficiency upgrades to the Headquarters office building in Skopje, aimed at significantly increasing the insulation value of the 1960's era building, while adding new efficient HVAC systems, provision of some photo-voltaic power generation and upgrading the building to modern fire and life safety standards; and,

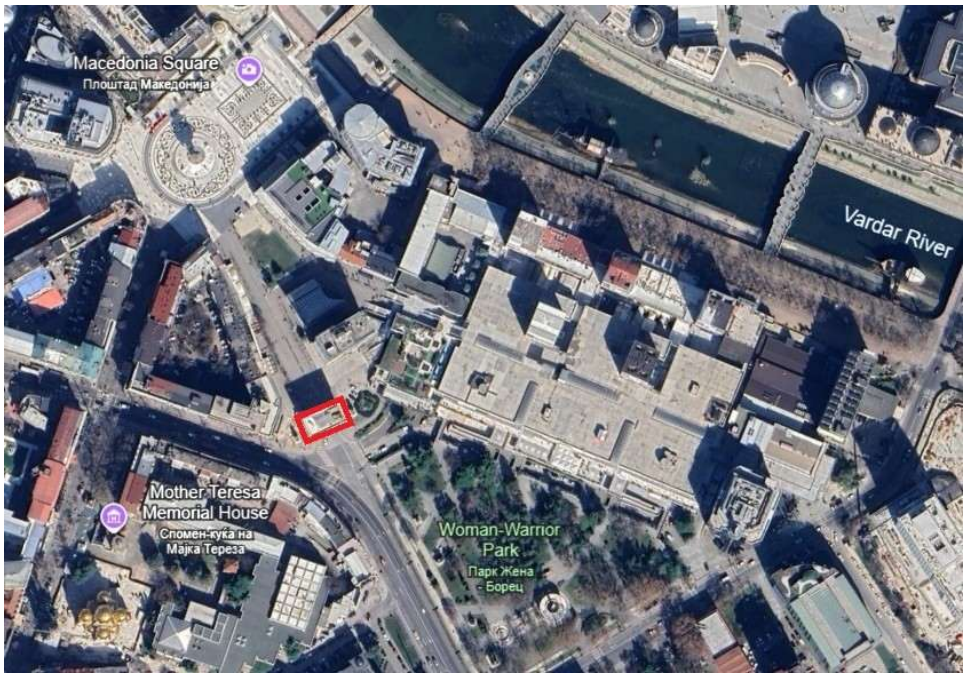

Figure 1 - ESM Headquarters Building Setting

- **Component 2** - Targeted upgrades to the district heating distribution network in Skopje (see Figure 2) to minimise loses of heat (current losses estimated at 11.31%) and water (current losses estimated at over 100,000m^3/yr) through the installation of new pipe sections using highly efficient pre-insulated pipelines.

We understand that both the Government of Macedonia and ESM have made public announcements in the local press about the planned works, but that formal public consultation has not been considered necessary.

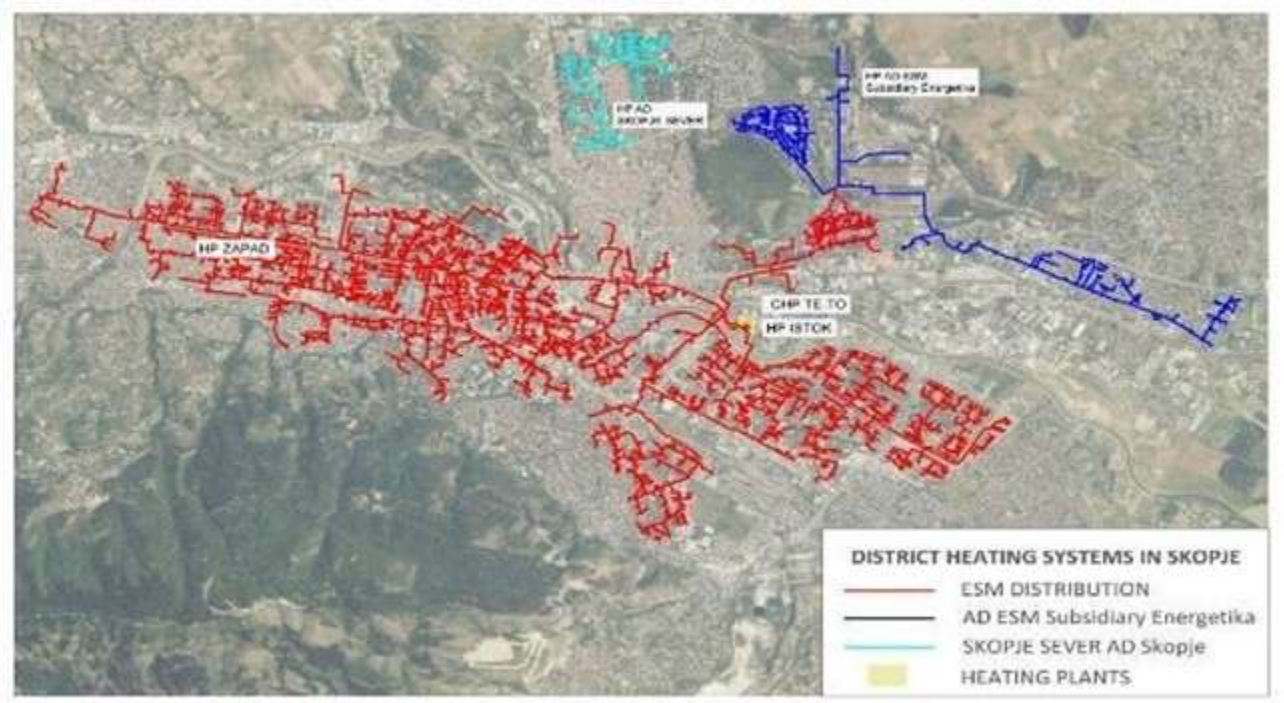

Figure 2 - Footprint of the Full DH Network

2 Background

The project directly supports the goals of the European Union (EU) Energy Efficiency Directive (2012/27/EU), aligns with North Macedonia's National Energy and Climate Plan (NECP), and addresses the primary public health crisis in the Skopje Basin—wintertime particulate matter smog—by systematically transferring residential heating loads away from highly polluting, decentralized solid-fuel combustion to a modern, centralized, natural gas-fuelled district heating network.

Rincon GES was retained to by EBRD to perform an Environmental and Social Evaluation of the Project to assess the Environmental and Social (E&S) risks associated and to develop recommendations and management plans that can be implemented to ensure the project is completed in compliance with the Environmental and Social Requirements (ESRs).

The Project is categorised B in accordance with the EBRD Environmental and Social Policy, 2024. The risks associated with this project are typical for this type of construction/renovation work, and can be adequately managed through the implementation of standard mitigation measures, with an emphasis on avoidance, minimisation, mitigation and then management.

The headquarters office of ESM is located in the town centre of Skopje, in an area of high density multi story office buildings, with heavy vehicular and pedestrian traffic. The district heating distribution lines are spread throughout the urban area of Skopje, both in the central business districts and the outer residential zones. Historically, the heat and power in Skopje was largely reliant on lignite, while there were also many users of biomass. This, along with the local topography and meteorological conditions conducive to winter temperature inversions, resulted in poor air quality in the city. This has significantly improved in recent times

as people have migrated to the central heating network, and as the central heating system transitioned to natural gas fuelling.

The ESM headquarters building was built around 1963 and is outdated. While it featured an innovative design at the time of construction, little to no consideration was given to insulation or energy efficiency. Subsequent efforts to renovate the building façade were initiated in 2013 and abandoned after a fire in 2016, leaving the building without a proper weather seal for over a decade.

3 Environmental Setting

3.1 Physical Characteristics

Skopje is situated at approximately 245 m above sea level within the Skopje Valley, an elongated basin whose principal physical axis is defined by the River Vardar. The valley is enclosed by mountainous terrain, including Skopska Crna Gora to the north, Vodno and the Jakupica massif to the south, and Žeden and Osoj to the west, while the terrain opens eastwards along the Vardar corridor. The wider basin is predominantly composed of Neogene–Pliocene sediments and Quaternary alluvial deposits, with extensive alluvial and clay-rich soils in the lower parts of the valley.

3.2 Climate and Meteorological Conditions

Skopje features a transitional climate exhibiting a blend of continental and Mediterranean characteristics, heavily modified by its basin topography.

Summers are typically hot and dry, with maximum temperatures frequently exceeding 40 degrees Celsius in July and August, generating an active urban heat island effect across the city's paved core. Conversely, winters are cold and remarkably still, with average temperatures hovering around zero degrees Celsius.

The surrounding mountain topography blocks regional cooling winds and frequently triggers severe winter atmospheric temperature inversions. During these inversion events, an upper layer of warm and dry, high pressure air traps low lying cold, humid air directly on the valley floor. This creates dense, prolonged fog blankets ("magla") and prevents the atmospheric dispersion of urban emissions (including particulate matter from combustion). As a result of its physical situation, winter climate and reliance on unregulated household biomass and coal burning by residents, Skopje frequently records particulate matter (PM_{10} and $PM_{2.5}$) concentrations that exceed World Health Organization (WHO) and EU limits.

3.3 Ecology of the River Vardar in Skopje

Hydrologically, the Vardar represents the principal drainage corridor through the valley and receives several tributaries within the wider Skopje area, most notably the Treska and Lepenec, together with smaller watercourses such as the Serava and Markova Reka.

Within Skopje, the Vardar represents both the principal surface-water feature and an important ecological corridor through an otherwise highly urbanised and modified landscape. The combination of the Vardar

corridor, surrounding mountain slopes, agricultural land, urban parks and remaining semi-natural areas provides the principal elements of the wider ecological network of the Skopje region. Its character varies considerably along the urban reach. Sections within the central city are strongly modified by flood-protection structures, embankments, roads, bridges and other infrastructure, whereas sections towards the western and eastern outskirts retain larger areas of riparian vegetation, gravel and sediment deposits and semi-natural riverbank habitat.

Riparian habitats associated with the Vardar support a mixture of trees, shrubs and herbaceous vegetation adapted to periodically wet or disturbed river margins. Surveys undertaken in the eastern part of Skopje have recorded species including white willow (Salix alba), black poplar (Populus nigra), elder (Sambucus nigra) and nettle (Urtica dioica), together with grasses and other hydrophilic vegetation. Remaining riparian vegetation, gravel bars, shallow-water areas and less disturbed banks provide habitat and feeding opportunities for aquatic invertebrates, fish, amphibians and birds.

The ecological condition of the river within and downstream of Skopje has historically been affected by urbanisation, wastewater discharges, surface runoff, industrial pressures, modification of the channel and degradation or fragmentation of riparian habitat. Ecological assessments of the upper Vardar watershed have consequently identified significant anthropogenic pressure in Skopje and its surroundings, while earlier biological surveys showed a shift towards more pollution-tolerant aquatic communities downstream of the city. Nevertheless, the river continues to retain substantial ecological functionality as an aquatic habitat and as a longitudinal corridor connecting the Vardar with its tributaries and remaining semi-natural habitats across the Skopje Valley.

4 Process

As part of the Environmental and Social Evaluation, Rincon developed questionnaires to gather pertinent E&S information and documents from ESM for both components of this project. Following delivery of these questionnaires, we held detailed discussions and interviews with staff from ESM, as well as the technical/design consultants assigned to both project components. As part of this task interviews were held with key employees of ESM as well as Technical Consultants for the ESM renovation project, and one Technical Consultant for the upgrades of the District Heating project. Following this, we completed site walks and visual inspections of both project Components. Through our evaluation, we conclude that the risks associated with both project components are relatively low while the benefits of the project are significant.

In summary, our assessment has concluded that both of the Project Components are compliant with EBRD ESRs provided that appropriate management and mitigation measures are applied (as set forth in the Environmental and Social Action Plan (ESAP) and the Framework Construction Environmental and Social Management Plan (FCESMP). The ESAP developed for this project outlines the tasks that should be completed to ensure this compliance is achieved. While some of the actions in the ESAP are for ESM to implement, many actions will be required by the contractors. Given that ESM will have contractual responsibility for the tasks in the ESAP (under the loan agreement), yet the contractor will be the one

implementing the actions, ESM oversight and management of the contractors is a crucial part of project compliance.

Considering the above, we have developed a FCESMP. This document sets forth the potential impacts that could result from the Project activities, by component. The FCESMP also sets forth the specific actions that the contractor must implement to avoid and manage the potential impacts.

Given that both project components involve renovation of existing facilities, the alternatives for the projects are somewhat limited. Nonetheless, some options were considered, as outlined below.

- For component 1, the two alternatives considered included upgrading the non-structural elements of the building focusing on insulation, lighting, ait handling systems etc compared to an option adding two floors on the top of the building while also addressing the energy efficiency upgrades of the non-structural option. In this instance, the non-structural option was selected due to a savings of at least 5.2 million Euro excluding VAT (13.6 vs 8.4 million Euro).
- For the District Heating component, the two options were 1) a targeted high priority replacement approach compared to 2) a comprehensive replacement of the entire network. In this instance, the targeted high priority replacement was selected due to the high price (estimated cost of 100 million Euro) and the significant prolonged disturbance associated with full replacement.

  The priority and reserve upgrade sections that were selected for Component 2 are indicated in the Figure below.

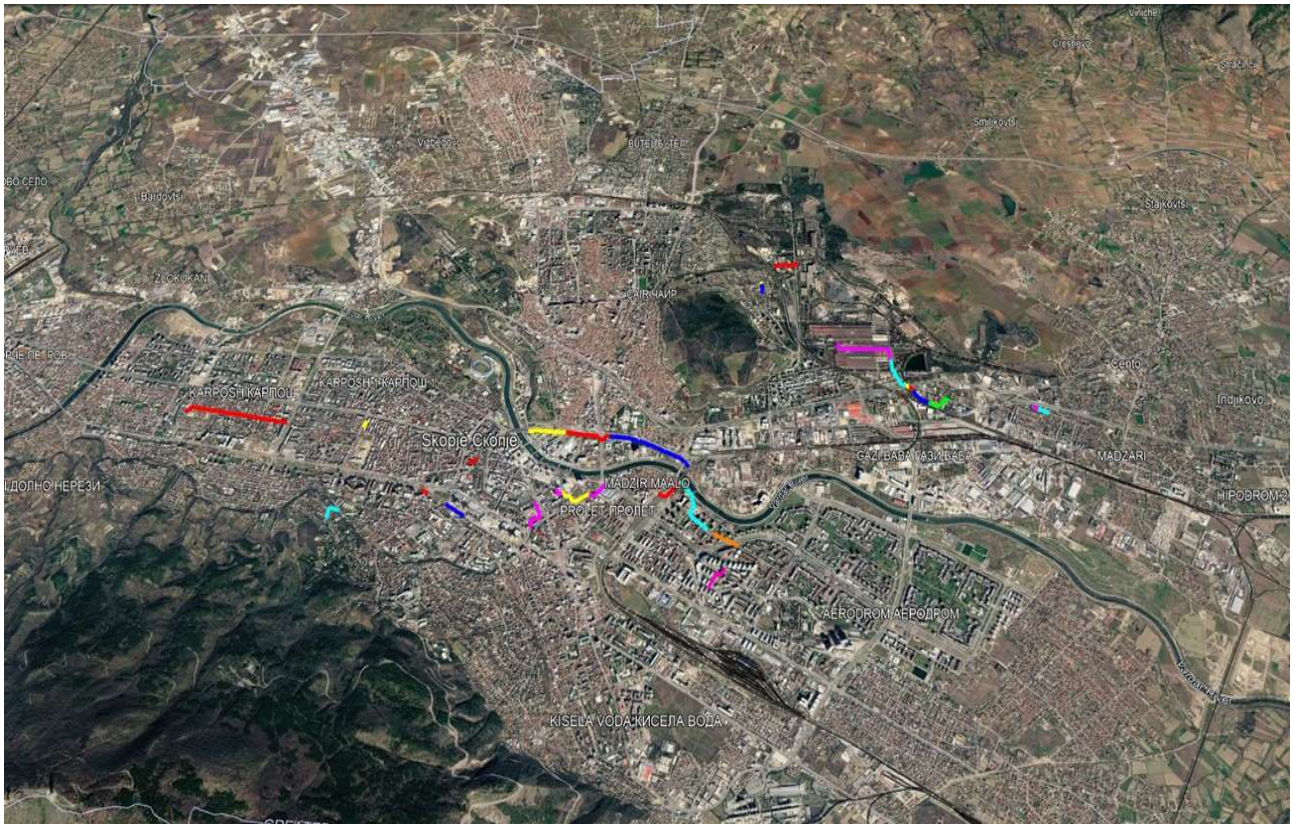

Figure 3 - District Heating Network Priority and Reserve Upgrade Sections

5 Summary of Environmental and Social Risks, Potential Impacts, Mitigation Measures and Benefits

5.1 Component 1: Renovation of the ESM Headquarters

For the headquarters component, the main risks relate to potential hazardous materials (former underground fuel tank and possible asbestos), the potential for construction activities in a high use density area of an urban setting causes nuisance to neighbours or the local population, potential impacts associated with mis-management of hazardous materials that may be present and a need to recycle as much of the building waste as possible, the need to upgrade life and fire safety aspects of the building, structural analysis considering seismic loading and consideration of Euro8 requirements (to be completed before starting the renovation) and implementation of stakeholder engagement activities to inform the local population above the project activities before start of construction.

To address potential risks, the FCESMP sets forth the specific mitigation measures contractors must implement to avoid, minimize, mitigate, and manage issues. The FCESMP for the Headquarters component outlines management requirements for the following::

- Occupational health and safety;
- Community health and safety, with a focus on measures to protect community from hazards associated with the site including falling objects;
- Site security measures;
- Management of possible nuisances, including noise, traffic, lighting and dust;
- Grievance management;
- Waste management;
- Hazardous materials; and
- Stakeholder engagement.

The tasks required to ensure the Project is implemented in accordance with the EBRD Environmental and Social requirements (ESRs) are set forth in the ESAP. Some of these actions are for ESM to implement although many will require actions by the contractor. As mentioned above, a FCESMP has been developed which sets forth the details of the actions that must be implemented by the contractors. It should be noted that both the ESAP and the FCESMP documents will be included in the tender documentation for contractor bidding. Further, the selected contractors will be contractually obliged to implement and perform all works in accordance with the requirements of the ESAP and the FCESMP.

The main environmental and social mitigation measures captured in the ESAP to be implemented for the ESM headquarters building renovation include the following (grouped by EBRD ESRs):

ESR1: Assessment and Management of Environmental and Social Impacts

- **ESM (Company):** Must submit annual environmental and social reports (AESR), maintain International Organisation for Standardisation (ISO) 14001 certification for the corporate ESMS, appoint a dedicated

E&S Manager/Focal Point to oversee Construction works, and perform supplementary E&S screening if design changes occur (such as addition of lay down areas or borrow pits).

- **EPC (Contractor):** Required to implement the site-specific Construction Environmental and Social Management Plan (CESMP) covering waste, Occupational Health and Safety (OHS), and traffic, and manage any temporary offsite facilities.

ESR2: Labour and Working Conditions

- **ESM (Company):** Must extend Human Resources (HR) policies to all staff in group and maintain a worker Grievance and Redress Mechanism (GRM).
- **EPC (Contractor):** Mandated to implement labour management procedures, ensure workers sign a Code of Conduct (covering Gender Based Violence and Harassment (GBVH) and child protection), and provide mandatory induction training covering risks at site and management thereof.

ESR3: Resource Efficiency and Pollution Prevention

- **ESM (Company):** Required to conduct a pre-demolition hazardous materials survey, to include intrusive Asbestos sampling, and the development of an asbestos management, handling and disposal plan if asbestos is confirmed to be present. Further, as required in the FCESMP an overall waste management plan will be developed and implemented by the Contractor.
- **EPC (Contractor):** Responsible for Underground Storage Tank (UST) decommissioning/remediation if confirmed to be present on site, implement refrigerant management protocols (including selection of equipment compatible with refrigerants of low Greenhouse Warming Potential (GWP) for Heating Ventilation and Air Conditioning (HVAC) systems, and general waste management (including any hazardous waste). Also, to include checks on traceability within the supply chain for Photo-Voltaic (PV) units, and factor results in to procurement selection. As mentioned above, the Contractor must develop a CESMP covering waste management, dust control and abatement, noise, traffic and other potential nuisances associated with the Project.

ESR4: Health, Safety, and Security

- **ESM (Company/Designers):** Responsible for structural/seismic assessments of the building, L&FS (Life and Fire Safety) design upgrades (e.g., sprinkler installation, fire doors), climate resilience reviews, and security personnel training.
- **EPC (Contractor):** Responsible for construction-phase OHS procedures and Emergency Preparedness & Response Plans (EPRP).

ESR8: Cultural Heritage

- **ESM (Company):** Must obtain written confirmation from NU Conservation Centre – Skopje / Cultural Heritage Protection Office as to whether the ESM building and its cadastral parcel are subject to any protection regime, conservation conditions or restrictions under the Heritage Conservation Bases for the Mal Ring area.

ESR10: Stakeholder Engagement

- **ESM (Company):** Responsible for implementing the Stakeholder Engagement Plan (SEP) and managing public notifications and grievances for neighbours.

5.2 Component 2: Rehabilitation of the District Heating Network

The primary environmental, social, health, and safety (ESHS) risks associated with Component 2 (District Heating Network Rehabilitation) stem from executing deep and wide linear excavations across high-density urban and commercial corridors in Skopje. Key operational and community hazards include traffic congestion from mass spoil haulage and boulevard lane closures, physical access severance of access residential doorways and retail storefronts. Furthermore, the works could pose public health and service continuity risks if heating is disrupted during cold weather.

The FCESMP for heating distribution includes measures for managing the following:

- Occupational Health and Safety;
- Community Health and Safety;
- Nuisances including dust, traffic and noise;
- Waste and soil management;
- Chance finds procedures covering hazardous materials and cultural heritage; and
- Stakeholder engagement.

The tasks required to ensure the Project is implemented in accordance with the EBRD Environmental and Social requirements (ESRs) are set forth in the ESAP. Some of these actions are for ESM to implement although most require actions by the contractor. In such cases ESM have the responsibility to verify that the Contractor implements adequate actions to satisfy the requirements of the ESAP. As mentioned above, a FCESMP has been developed which sets forth the details of the actions that must be implemented by the contractors. It should be noted that both the ESAP and the FCESMP documents will be included in the tender documentation for contractor bidding. Further, the selected contractors will be contractually obliged to implement and perform all works in accordance with the requirements of the ESAP and the FCESMP.

The main environmental and social mitigation measures captured in the ESAP to be implemented for the Component 2, District Heating renovations include the following:

ESR1: Assessment and Management

- **ESM (Company):** Must report annually on E&S issues to EBRD, expand Environmental and Social Management Systems (ESMS) to cover heat distribution works, and hire specialized E&S and Social/Stakeholder staff.
- **EPC (Contractor):** Must develop and implement a site-specific CESMP for linear works and conduct Environmental Impact Assessment (EIA) screenings where required by national law.

ESR2: Labour and Working Conditions

- **ESM (Company):** Responsible for harmonizing subsidiary HR policies.
- **EPC (Contractor):** Required to implement labour management procedures and maintain a site-accessible worker GRM.

ESR3: Resource Efficiency and Pollution Prevention

- **ESM (Company):** Must report on annual Green House Gas (GHG) reductions to EBRD and screen supply chains (including pipe suppliers and linked heat sources) for E&S management systems.
- **EPC (Contractor):** Responsible for implementing measures to manage (including segregation and recycling) hazardous materials, waste and pollution control, soil management, dust, noise, traffic and nuisances, chance finds (including possible contamination) as well as reinstatement following construction to cover pedestrian access routes and any vegetation.

ESR4: Health, Safety, and Security

- **ESM (Company/Designers):** Responsible for climate resilience reviews and developing an EPRP for linear infrastructure.
- **EPC (Contractor):** Responsible for developing and implementing Traffic Management Plans (TMPs), community safety measures (barriers, lighting), and performing pre-construction structural integrity surveys on sensitive adjacent (within 10M) buildings where deep trenches (>2m deep) will be excavated.

ESR5: Land Acquisition and Involuntary Resettlement

- **ESM (Company):** Must perform a pre-construction census to identify and implement measures to avoid or mitigate impacts to affected businesses/informal vendors (if any) and plan for continuity of heating service for vulnerable users and hospitals.
- **ESM (Company/Designers):** Pipeline interconnections executed during non-heating summer season (May–Sept); 14-day notice and emergency backup solutions provided to sensitive receptors.

ESR8: Cultural Heritage

- **EPC (Contractor):** Required to develop and implement a "chance finds" procedure throughout the excavation works.

ESR10: Stakeholder Engagement

- **ESM (Company):** Responsible for implementing the Project Stakeholder Engagement Plan (SEP) and multi-channel notification systems.
- **EPC (Contractor):** In coordination with ESM, must develop a Public Information and Customer Communication programme prior to initiating any of the construction work fronts.

5.3 Key Benefits

The overall benefits of the two project Components are substantial. Based on the Inception Report prepared for EBRD by NIRAS SR d.o.o., for Component 1, the project will aim to achieve at least 30% energy efficiency gain for the project compared to the base case. This will be accomplished primarily through increasing the insulation value of the existing building. In addition to the increased insulation value, modernisation will involve greater efficiency in the HVAC system and use of modern energy saving lighting. The building will also be equipped with between 132 kW and 248 kW of Photovoltaic cells contributing to its energy needs.

Based on information presented in the aforementioned Inception Report, the Component 2 works have been projected to result in substantial resource efficiency improvements, specifically:

- Thermal Efficiency Gains: The direct replacement of the deteriorated insulation and the mitigation of heat dissipation through wet concrete ducts is projected to yield thermal energy savings of approximately 8,400MWh/annum, contributing directly to the goals of the EU Energy Efficiency Directive (EU Directive 2012/27/EU).
- Systemic Water Loss Mitigation: Replacing rupture-prone steel lines will prevent an estimated 32,000m^3/annum of chemically treated hot water from leaking into the surrounding sub-surface soils, stabilizing the network's hydraulic balance and lowering operational pumping costs.

In terms of the District Heating component, the more users can be transitioned to this system the greater the reduction in air pollution in Skopje as such users will no longer need to rely on decentralised solid fuel for heating. This adds to recent gains in the system accomplished by switching from lignite to natural gas as a fuel source for the hot water. Further, the prioritised pipeline replacement will result in minimising significant loss of heat and hot water from the system. Some of the pipe sections to be replaced will provide larger diameter pipes, which will result in increasing the overall efficiency of the system. Further efficiency gains will be accomplished through replacement of numerous heat exchange units in large apartment complexes. All of the investment across both components on this project will contribute to an improvement of the air quality in Skopje, especially in the winter months when temperature inversions are common.

6 Regulatory Overview

The environmental assessment in the Republic of North Macedonia is governed by the Law on Environment (*Official Gazette* No. 53/05 and subsequent amendments), Chapter XI of this Law partially transposes EU EIA Directive 2011/92/EU as amended. Screening thresholds are set by the Decree determining the projects and the criteria for establishing the need for an EIA procedure (*Off. Gazette* Nos. 74/05, 109/09, 164/12 and 202/16), which distinguishes Annex I projects (mandatory EIA) from Annex II projects (case-by-case screening). Projects falling below the EIA threshold are subject to the simplified instrument under Article 24 of the Law, the Elaborate on Environmental Protection, approved either by the Ministry of Environment and Physical Planning (MoEPP) or by the mayor of the relevant municipality / the City of Skopje, depending on the activity listed in Decrees No. 36/12 and No. 32/12 respectively. In all cases the procedure is triggered by the developer's Notification of Intent under Article 77, on which MoEPP issues a screening decision; no construction permit may be issued under the Law on Construction until the EIA consent (Art. 87) or the approved Elaborate is in place.

Component 1 — Reconstruction of the administrative building

Given that this component does not increase the project footprint and there is no change in land use and no capacity increase or vertical expansion, this project activity is not included in the Annex I or Annex II descriptions and therefore an EIA does not appear to be required. The regulatory requirements relating to the need for an EIA are presented in detail in the Evaluation Report.Nonetheless, ESM could nitiate the EIA screening process and obtain a formal opinion from the competent authority confirming that an EIA process is not required for this component.

Component 2 — Reconstruction of the district heating network

Unlike Component 1, Component 2 is listed in Annex II of the EIA Directive. Therefore ESM should complete and file a "Notification of Intent" under Article 77 covering all Component 2 activities, once determined from the final design. Based on this the MoEPP will issue a formal screening decision(s) on the need, or not, of an EIA. In the likely event that it is determined an EIA is not required on this component, an "Environmental Protection Elaborate" should be prepared by ESM for approval by the MoEPP.

As pointed out above, neither component is expected to require a full national EIA Study and no transboundary procedure under the Espoo Convention is envisioned. The national process, where it results in an Elaborate rather than an EIA, does not include mandatory public consultation or disclosure, although ESR 10 will require this.

7 Monitoring of Impacts

ESM cannot rely on contractor compliance without adequate oversight. Therefore, we also recommend that ESM retain or assign (from existing staff) adequate internal resources to oversee construction and specifically compliance with the ESAP and the FCESMP, covering areas noted in the FCESMP, including issues such as waste management, noise, dust and any incidents. Note that the contractors will be responsible for preparing their own CESMP based on the FCESMP, which shall at least satisfy all the requirements of the FCESMP.

Contractors are responsible for reporting to ESM on status of E&S issues (as set forth in the ESAP and FCESMP) every six months during construction. Further, ESM will report on E&S issues and overall ESAP implementation to EBRD every six months during construction and once per year thereafter, for the life of the loan. This reporting will follow a standard format agreeable to both parties.

While ESM is certified for ISO 14001, this system does not cover all of the various companies with ESM. We also recommend that this existing ISO system is expanded to cover all companies within ESM. We believe ESM should appoint resources to have E&S responsibility and oversight of both components. Such resources could be within ESM itself, or within the Project Implementation Unit (PIU) during the construction activities. One of the main tasks of these resources would be E&S oversight of the Contractor performing the renovation work. Another task that should be managed by these resources would be oversight of the Grievance Mechanism to be applied to Contract employees as well as the external grievance mechanism, to ensure that any complaints about impacts caused by the construction are adequately managed and addressed in a timely fashion.

We believe taking the approach above (including implementation of the ESAP and the FCESMP), the project can be implemented consistent with EBRD ESRs.

8 Implementation Timetable

- **Pre-Construction Phase (Late 2026):** Finalizing detailed engineering designs, completing Eurocode 8

seismic testing, executing intrusive asbestos/soil surveys, conducting local business censuses, and securing municipal traffic permits.

- **Construction Mobilization (2027):** Contractor setup, installation of pedestrian bridges, perimeter fencing, and commencement of Headquarters building refit and priority district heating pipeline replacements.
- **Completion Target (2028–2029):** Final commissioning of rehabilitated heating network branches, Supervisory Control and Data Acquisition (SCADA) control systems, and full occupancy of the renovated ESM Headquarters.

It should be noted that the detailed design relating to each of the Project Components is still being developed. The final scope, methods and sequencing of some works may therefore change. If changes materially increase the physical footprint or environmental and social impacts of the Project, additional assessment and stakeholder engagement will be undertaken before the relevant works begin.

9 Stakeholder Engagement Plans

9.1 Component 1 Stakeholder Engagement Plan

In accordance with EBRD ESR 10 the Contractor must develop and implement a Stakeholder Engagement Plan (SEP) as part of their CESMP. This SEP must be commensurate with the risks associated with the project and at a minimum address the items describer below.

9.1.1 Modes of Communication

Prior to start of the construction/reconstruction project, it is important to inform local population about the planned activities, the possible impacts that could occur, and method that locals could use to make a complaint or seek further information on the project. This information should communicate to the local population using two different modes of communication: articles/announcements in popular local papers, and information boards situated in visible locations around the building perimeter, likely to be integrated as part of the exterior fencing/barrier. In both instances, details about the activities that will be undertaken, duration of these activities, potential impacts that could be experienced by the local population, and steps that could be taken to obtain further information or to lodge a complaint about impacts must be provided. The signs and articles should be released/installed at least two weeks prior to any work associated with the project.

9.1.2 Communication Frequency

It is suggested that updated articles are provided in the popular local newspapers every six weeks for the length of the construction. The signposts at the Headquarters office to remain in place for the duration of the construction/reconstruction, and until normal access to the local walkways and to the front of the building are re-established.

9.2 Component 2 Stakeholder Engagement Plan

In accordance with EBRD ESR 10, the District Heating component will require implementation of measures to ensure potentially affected people and local population are informed of the activities, and have a method from raising questions about the project and lodging complaints, if required. To address this requirement,

the Contractor is required to develop a Stakeholder Engagement Plan (SEP) as part of the CESMP. Key requirements of this plan are set forth below.

9.2.1 Modes of Communication

The elements of the SEP must be effectively communicated to the community, in a culturally appropriate way. The SEP should utilise three different modes of communication as follows:

1. Signposting at the area of construction. Signs should be posted at each location where pipelines will be replaced, at least two weeks prior to start of construction. These signs should be placed in both directions of travel on the roads. The signs shall remain onsite until completion of the activities and should indicate the following:
    - Timing of the start of construction;
    - A warning that traffic may be disrupted during construction; and,
    - A number to call for further information.
2. Two weeks prior to construction on any element of the District Heating component, information must be provided in the popular newspapers in Skopje, informing the community about the upcoming rehabilitation of the District Heating system and the benefits this will bring to the community in terms of service as well as energy efficiency, what construction activities will be undertaken, what impacts this may have on the local community, what measures will be taken to avoid and minimise possible impacts, and how interested parties can seek additional information or lodge a complaint if required based on impacts during construction.

Discussions shall be held with any residents or businesses located along any section of pipeline to be replaced. These discussions shall be completed two weeks prior to the start of construction. Records shall be maintained of all such discussions documenting pertinent topics discussed, and capturing any concerns raised by participants, and specifically the responses provided to any concerns raised. Special emphasis shall be made to address any concerns of elderly or disadvantaged (such as handicapped) people and to ensure that businesses (both formal and casual (such as vegetable stands)) are not disrupted during the construction activities. For example, if the pipeline construction is planned in a location that could restrict vehicular traffic or foot access to a business, arrangements shall be made to avoid or minimise such disruptions to the extent that the business will not be adversely financially impacted. In the rare situation that foot traffic or vehicular traffic will be directly impacted, alternative temporary access routes or temporary relocation shall be provided to and accepted by the business or resident. Such arrangements shall be documented in writing and agreed to by the affected party (in writing).

10 Communications

Further information about the Project, stakeholder engagement activities and the grievance mechanism will be made available through the Project's public disclosure channels.

Project Sponsor: Elektrani na Severna Makedonija (ESM)

Project: ESM Energy Efficiency Project, Skopje, North Macedonia

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