

**TÜRKİYE PUBLIC AND MUNICIPAL RENEWABLE ENERGY PROJECT
(PUMREP)**

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

**13.728 kWp/ 11.221 kWe
Solar Power Plant Projects
of Ümraniye Municipality**

NOVEMBER 2025

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Abbreviations

AoI	Area of Influence
CITES	Convention on the International Trade in Endangered Species of Wild Flora and Fauna
EIA	Environmental Impact Assessment
EHS	Environmental Health and Safety
ESAP	Environmental and Social Action Plans
ESF	Environmental and Social Framework
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Monitoring Report
ESMS	Environmental and Social Management System
EPDK	Energy Market Regulatory Agency
ESS	Environmental and Social Standard
ETL	Energy Transmission Line
E&S	Environmental and Social
EU	European Union
FI	Financial Intermediary
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GIIP	Good International Industry Practice
GM	Grievance Mechanism
IFIs	International Finance Institutions
IA	Impact Assessment
ILO	International Labor Organization
ILBANK	İller Bankası A.Ş.
IUCN	International Union for Conservation of Nature and Natural Resources
KPIs	Key Performance Indicators
LOTO	Lockout Tagout
MoEUCC	Ministry of Environment, Urbanization and Climate Change
OG	Official GazettePAP
OHS	Occupational Health and Safety
PIU	Project Implementation Unit
PIF	Project Introduction File
PPE	Personal Protective Equipment
PUMREP	The Turkish Public and Municipal Renewable Energy Project
PV	Photovoltaic
RCA	Root Cause Analysis

RE	Renewable Energy
SEAH	Sexual Exploitation, Abuse and Harassment
SEP	Stakeholder Engagement Plan
SPP	Solar Power Plant
Sub-Project	13.728 kWp/ 11.221 kWe Solar Power Plant Project of Ümraniye Municipality
TAP	Türkiye Portable Battery Manufacturers and Importers Association
TurkStat	Turkish Statistical Institute
UICN	International Union for the Conservation of Nature
WB	World Bank
WBG	World Bank Group

Glossary of Terms

Associated facilities	Facilities or activities that are not funded as part of the Subproject and are: (a) directly and significantly related to the project; (b) carried out, or planned to be carried out, contemporaneously with the project; and (c) necessary for the project to be viable and would not have been constructed, expanded or conducted if the project did not exist. For facilities or activities to be Associated Facilities, they must meet all three criteria.
Contractor	A person or organization providing services to an employer at the client worksite in accordance with agreed specifications, terms and conditions.
Excavated material	Materials/soils that are generated as a result of excavation and other similar activities carried out prior to construction
Legally protected area	Designated terrestrial, aquatic or marine ecosystems managed under the related legislation to protect and sustain the biodiversity features, natural and associated cultural resources. Legally protected areas of Türkiye include a diversity of natural ecosystems and associated features ranging from coastal zones to mountains, deltas, forests, plains, steppe, lakes, river systems, deep valleys, canyons, and glaciers.
Material borrow site	Sites, where loose material containing gravel, sand, silt, and clay, which is formed by the natural and geological processes of rock fracturing, fragmentation, alteration, transportation, and/or in-situ sedimentation, and which has the characteristics of slope debris, are extracted to be used as fill material.
Off-site accommodation	Accommodation of workers at hotels, rented housing, etc. available in the vicinity of Subproject area.
On-site accommodation	Accommodation of workers at temporary exploration camps, construction camps, dormitories, etc. established for the Subproject on site.
Risk	A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of people caused by this event.
Topsoil	Part of soil that provides organic and inorganic materials, air and water required for vegetative growth, and is required to be stored separate from the subsoil.

EXECUTIVE SUMMARY

The Public and Municipal Renewable Energy Project (PUMREP), financed by the World Bank (WB) with İller Bankası A.Ş. (İLBANK) as the Financial Intermediary (FI), marks a significant step towards sustainable energy solutions and enhanced energy security for the public sector in Türkiye. The sub-projects to be financed under PUMREP include the installation of renewable energy facilities by Ümraniye Municipality with a capacity of SPP 13.728 kWp/11.221 kWe. This sub-project is located in Camikebir Neighborhood of Maden District of Elazığ Province. Ümraniye Municipality planned to invest in a solar power plant in Maden district, aiming to achieve high efficiency in energy production due to the high solar radiation data due to the climate conditions of Maden district. In addition, it preferred to establish a solar power plant in Maden district due to the ease of land acquisition. For this purpose, all legal permits for the establishment of the sub-project have been obtained. For land acquisition, with the official letter dated 14.07.2023 and numbered 6887050 of the General Directorate of National Real Estate of the Ministry of Environment, Urbanization and Climate Change, the easement right of the 171,777.19 m² area was allocated to the Ümraniye Municipality for 29 years. In addition, with the decision numbered 69-1324 of the TEDAŞ Board of Directors dated 22 July 2025, the land acquisition process for the Energy Transmission Line (ETL) will be managed by TEDAŞ. The ETL route passes through public, forest, and unregistered lands, and no informal users are present in these areas.

Ümraniye Municipality will manage all works related to the construction and operation of this sub-project, ensuring effective implementation and operation of the renewable energy facilities under the PUMREP.

The proposed SPP investment is 'unlicensed' electricity generation in accordance with the 'Regulation on Unlicensed Electricity Generation in the Electricity Market' numbered 30772 published in the official gazette dated 12 May 2019 and its subsequent amendments. In accordance with the Call Letter of the relevant energy distribution company dated 11.10.2023 and numbered 84905 and the Connection Agreement dated 08.11.2024 and numbered 1040, unlicensed electricity generation permission has been granted. The letter of authorization is attached to the ESMP (See Annex B).

Maden has an average annual irradiance of 1588 kWh/kWp and a sunshine duration of 2285 hours. In the simulations made using the PV SYST programme, the annual energy production of the power plant was calculated as 21.800.064 kWh/year. With the energy produced, 84% of the annual electricity consumption of the municipality will be met. In addition to the contribution of the power plant to the economy, it will also prevent 13,832 tonnes of carbon emissions due to its renewable clean energy source. If the energy produced is scaled, it is approximately equivalent to the electricity consumption of 8200 households.

Ümraniye Municipality SPP project is planned on lot 10 of block 626 in Camikebir Neighborhood, Maden District of Elazığ Province. Lot 10 of block 626 is Treasury Finance land and is 883.302,79 m². (Annex C). With the official letter dated 14.07.2023 and numbered 6887050 of the General Directorate of National Real Estate of the Ministry of Environment, Urbanisation and Climate Change, the easement right of 171,777.19 m² area was allocated to Ümraniye Municipality for 29 years. The allocation letter is available in the ESMP annex (See Annex C).

The Energy Transmission Line (ETL) will be connected to the new Mining Energy DC Center, which will be constructed by taking 6,408.86 meters of overhead line from the Ümraniye Municipality Solar Power Plant Transformer Center. The new Mining Energy DC Center will be constructed immediately in front of the existing Mining Energy DC Center. The ETL will be overhead and will pass through the Treasury, forests, pastures, and unlicensed lands along its route. Additionally, the Ordu Küme Evler Street and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used in some locations. Private third-party lands will not be used, and no informal users have been identified along the route. Applications for allocation permits have been submitted for publicly owned parcels (Treasury, forests, pastures, etc.) and unregistered lands (See Annex C). Because these parcels are treasury lands, the TEDAŞ Board of Directors, as the authorized institution, has decided, in its decision numbered 69-1324, dated July 22, 2025, that TEDAŞ will carry out the relevant work and procedures. The TEDAŞ Board of Directors' decision is included in the appendix of the ESMP (See – Title Deed).

Access to the SPP Plant will be provided from Ordu Küme Evler street and Sivrik Kullan Bahçeleri Küme Evler cadastral road. The road in question passes through the SPP plant boundary.

13.728 kWp / 11221 kWe SPP Project, published in the Official Gazette dated 25.11.2014 and numbered 29186 (revised in the Official Gazette dated 29.07.2022 and numbered 31907). Since it is above the 10 MWe energy production stipulated in the EIA Regulation, it is within the scope of EIA in accordance with the legislation. The official letter and document of the Ministry of Environment, Urbanisation and Climate Change 'EIA Positive Decision' dated 04.09.2024 and numbered 10353572 is available in the annex of the ESMP (See Annex B). With the letter dated 03.03.2025 and numbered 11905809 of the Elazığ Provincial Directorate of Environment, Urbanization and Climate Change, the 'EIA Out of Scope' decision for the Energy Transmission Line was given (See Annex B).

The sub-project is in the Moderate Risk category according to the Risk Classification conducted within the scope of the ILBANK Environmental and Social Management System (ESMS). One of the tasks within the scope of the subproject is the preparation of this Environmental and Social Management Plan (ESMP) in accordance with ILBANK's ESMS and WB ESF, applicable Environmental and Social Standards (ESSs), World Bank Group (WBG) General Environmental Health and Safety (EHS) Guidelines and Industrial Sector Guidelines, and national legislation in force in Türkiye. The plan outlines the necessary measures and guidelines to ensure that the environmental and social impacts of the sub-project are effectively managed throughout the construction and operation phases.

Various measures are being taken to mitigate the medium, significant, and high risks identified within the scope of the ESMP (Environmental and Social Management Plan). These measures are generally determined based on risk prioritization, and decisive and effective steps are taken immediately to mitigate these risks. Sub-management plans are also developed and implemented to manage these risks.

Within the scope of the ESMP, the impacts and risks that will arise from the subproject activities are listed below:

Environmental impacts: Increased emissions during construction, noise impacts, environmental pollution caused by waste generated, soil erosion loss and contamination, water resource contamination, and adverse impacts/risks on biodiversity are expected.

Social impacts: Disruptions/risks to the daily routines of local people are expected due to the subproject. Workers are likely to experience occupational health and safety risks, and traffic risks are likely to occur. Impacts/risks of fear, anxiety, and reduced livelihoods are anticipated for vulnerable and disadvantaged groups/individuals.

The measures to be taken to reduce these impacts/risks are briefly summarized:

To reduce emissions, regular water spraying will be carried out at the construction site to suppress dust. Regular maintenance of vehicles and machinery will ensure that exhaust emissions are kept below limit values.

Noise-laden machinery will be replaced with quieter alternatives, if possible, and daytime working hours will be implemented.

Waste will be collected in leak-proof containers and separate storage areas. A leak-proof septic tank will be constructed on the construction site, and wastewater will be stored in leak-proof septic tanks.

Employees will be provided with necessary training on waste management.

An effective grievance mechanism (GM) will be used to submit complaints. The public will be informed through information meetings before the start of activities.

To reduce occupational health and safety risks, regular training programs will be organized to raise employee and staff awareness, and the provision and use of necessary personal protective equipment will be ensured.

Traffic signs and warning signs will be installed in areas close to residential areas, and traffic safety training will be provided to vehicle drivers. Information and consultation meetings will be held for disadvantaged and vulnerable groups/individuals.

The ESMP for the subproject outlines measures to mitigate potential environmental and social impacts throughout the subproject's lifecycle. This plan is crucial for ensuring that subprojects comply with national and international environmental regulations and social guarantees.

1. INTRODUCTION

1.1. Background

The Public and Municipal Renewable Energy Project aims to increase the use of renewable energy through self-generation in public facilities. The project will contribute to expanding the market for distributed renewable energy (RE) in public facilities, helping to demonstrate leadership in the public sector in using sustainable energy solutions to fulfil the country's climate mitigation commitment and increase energy security.

It is financed by the World Bank (WB) through the PUMREP loan to support the deployment of RE technologies in municipalities. İller Bankası A.Ş. Department of International Relations (ILBANK) acts as the Financial Intermediary (FI). The project will be implemented through 4 components:

Component 1: Renewable energy investments in central government facilities

Component 2: Renewable energy investments in municipalities

Component 3: Technical assistance and project implementation support

Component 4: Emergency response support.

Ümraniye Municipality (here in after referred to as “the Sub-borrower”) has applied to ILBANK for sub-financing of Ümraniye Municipality 13.728 kWp / 11221 kWe. (here in after referred to as “the Sub-project”) under Component 2. The sub-project is located in insert Camikebir Neighborhood, Maden District of Elazığ Province.

ILBANK has established an Environmental and Social Management System (ESMS) effective on 24th of Dec 2023. The ESMS is aligned with the requirements of World Bank (WB) Environmental and Social Framework (ESF, 2018) including Environmental and Social Standards (ESSs) forming part of the ESF, and E&S policies and standards of other International Financial Institutions (IFIs) ILBANK collaborates with. It will be applicable to all ILBANK projects and Subproject financed through International Financial Institutions (IFIs).

The ESMS is aimed at ensuring systematic identification, assessment, management, monitoring, and reporting of the environmental and social (E&S) risks and impacts of the projects and Subproject financed by the International Finance Institutions (IFIs). This process will be implemented on an ongoing basis throughout their loan duration in line with the requirements of the national legislation, international agreements and conventions ratified by Türkiye and E&S standards of lending IFIs (World Bank for the PUMREP). As a critical element of the ESMS, ILBANK has adopted and published an E&S Policy¹ applicable to all ILBANK projects and Subproject financed through IFIs.

Within the scope of the ILBANK's ESMS and World Bank Environmental and Social Framework (ESF), Subproject are classified as High Risk, Substantial Risk, Moderate Risk or Low Risk taking into account relevant potential risks and impacts, such as the type, location, sensitivity and scale of the Subproject; the nature and magnitude of the potential E&S risks and impacts; the capacity and commitment of the sub-borrower; and other relevant areas of risks that may result in unintended impacts.

ILBANK considers financing the sub-project under the PUMREP. In line with the ESMS, ILBANK carried out an E&S screening and risk classification of the sub-project and rated the activity as having “**Moderate**” E&S risk. The Sub-borrower has retained a third-party consultancy company for the preparation of the E&S instruments required as per the E&S risk category assigned to the sub-project.

This Environmental and Social Management Plan (ESMP) has been prepared for the subproject by PVGLOBAL Energy Engineering in accordance with the applicable E&S requirements as set out in Section 1.3. The list of Individuals/Organizations that prepared or contributed to the development of the ESMP is provided in the ESMP annex (See Annex A).

A stand-alone Stakeholder Engagement Plan (SEP) has also been developed for the sub-project.

¹ <https://www.ilbank.gov.tr/sayfa/ilbank-environmental-and-social-policy>
<https://www.ilbank.gov.tr/sayfa/ilbank-cevresel-ve-sosyal-politika-dokumani>

1.2. Objective of the ESMP

This ESMP has been prepared to detail the measures to be taken during the implementation and operation (throughout the sub-financing agreement life cycle) of the Subproject to eliminate or offset adverse E&S impacts, or to reduce them to acceptable levels; and the actions needed to implement these measures.

1.3. Overview of E&S Requirements Applicable to the Subproject

The Subproject will be implemented in compliance with the requirements of the applicable national legislation and international agreements and conventions to which Türkiye is a party of, and in accordance with the following international requirements:

- ILBANK Environmental and Social Management System (ESMS) (2024)
- WB Environmental and Social Framework (ESF, 2018) and the Environmental and Social Standards (ESSs) forming part of the ESF,
- WB Group General Environmental, Health and Safety Guidelines (EHSGs) (2007)
- GIIP

The relationship between WB ESSs and subprojects is given in the Table 1.

Table 1. Identifies the relevance of the WB ESSs to the Subproject.

ESSs	Definition	Relevance to the Subproject
ESS 1	Assessment and Management of E&S Risks and Impacts	Relevant
ESS 2	Labor and Working Conditions	Relevant
ESS 3	Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4	Community Health and Safety	Relevant
ESS 5	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Relevant
ESS 8	Cultural Heritage	Relevant
ESS 9	Financial Intermediaries	Not relevant to Subproject
ESS 10	Stakeholder Engagement and Information Disclosure	Relevant

When national requirements differ from the levels and measures presented in the EHSGs, the sub-project will achieve or implement whichever is more stringent.

A summary of the national legislation and international standards applicable to the management of environmental, social, health, and safety aspects of the subproject is provided in the ESMP Annex (See Annex J).

1.4. Review and Update

This ESMP will be reviewed and updated by the Sub-borrower during the sub-project implementation, in case of changes in the organizational structure, following significant events, in certain cases such as the introduction of new tools, software or databases into the ILBANK E&S Risk Management System, to reflect changes in the national legal framework, ILBANK policies and other developments.

The Sub-borrower will notify ILBANK of any update to the ESMP.

The Sub-borrower will ensure that changes to the ESMP do not result in deviation from the requirements set forth by the national legislation and the E&S requirements applicable to the sub-project.

1.5. Implementation Arrangements

The Sub-borrower will hold ultimate responsibility for implementation of this ESMP by the Sub-borrower and contractor teams (engaged in connection with the sub-project – including sub-contractors) throughout the sub-financing agreement life cycle.

The Sub-borrower will ensure that adequate financial and human resources for effective ESMP implementation are available at sub-borrower, supervision consultant and contractor organizations throughout the sub-financing agreement life cycle.

The Sub-borrower will decide on the arrangements for the operation of the sub-project and be responsible for ensuring that operations are compliant with the national legislation and Operation ESMP.

The roles and responsibilities of the Sub-borrower, contractor and sub-contractor teams regarding the ESMP implementation are described in Chapter 4.

This ESMP provides instructions, responsibilities and guidelines to the responsible parties, as well as a set of mitigation, monitoring and institutional measures to be taken during the construction and operation of the sub-project to prevent or reduce potential adverse environmental and social impacts to acceptable levels. Technical parameters for all monitoring requirements are defined, along with appropriate responsibilities and reporting procedures. In addition, a Grievance Mechanism (GM) for receiving and evaluating all grievances, concerns and comments regarding the sub-project is specified in the sub-project specific SEP. The ESMP has identified mitigation measures and monitoring activities to reduce and avoid impacts and risks associated with the sub-project. Section 4 presents risks and impacts and mitigation measures.

During the construction and operation phases, PIU assigned by Ümraniye Municipality will ensure compliance with national and international legislation.

SUBPROJECT DESCRIPTION

1.6. Subproject Information

The sub-project activity subject is related to the establishment and operation of "Ümraniye Municipality SPP 13.728 kWp / 11221 kWe" by Ümraniye Municipality on lot 10 of block 626 in Camikebir Neighborhood, Maden District of Elazığ Province.

Sub-project, published in the Official Gazette dated 25.11.2014 and numbered 29186 (revised in the Official Gazette dated 29.07.2022 and numbered 31907). Since it is above the 10 MWe energy production stipulated in the EIA Regulation, it is within the scope of EIA in accordance with the legislation. The official letter and document of the Ministry of Environment, Urbanisation and Climate Change 'EIA Positive Decision' dated 04.09.2024 and numbered 10353572 is available in the annex of the ESMP (See Annex B).

With the 21,800,064 kWh/year energy produced annually, 84% of the municipality's electricity consumption will be met. At the same time, carbon emissions will be reduced and the environment and human health will be protected thanks to the sustainable clean energy source.

Basic technical information regarding the sub-project is summarized in the Table 2. More information on construction and operation phase activities and facilities is included in the following sections of this chapter.

Table 2. Key Technical Information on Subproject

SPP	Information	Remarks/ Notes
SPP	Technology	Photovoltaic
	Installed Power	13,728 kWp
	Connection Power	11,221 kWe
	Annual Electricity Generation	21,800,064 kWh/Year
	Solar Panel Type	550 Wp (Monokristal panel)
	Number of Solar Panels	24,960
	Inverters Panel Type	300 kW
	Number of Inverters	38
	Annual Carbon Emission Reduction	13,832 ton
	Power Plant Lifetime Carbon Emission Reduction	345,800 ton
	Number of Households Supported with Produced Energy	8,200
	Economic Life of the Power Plant (Operation Duration)	25

1.6.1. Subproject Location

A large part of Maden district is mountainous and rugged. The district center is at an altitude of 1054 m. Its surface area is 939 km². The part where the district is located is a valley. This valley starts a little below Lake Hazar and continues to Ergani district.

Information on the sub-project location is presented in Table 3.

Ümraniye Municipality SPP project is planned on lot 10 of block 626 in Camikebir Neighborhood, Maden District of Elazığ Province. Lot 10 of block 626 is Treasury Finance land and is 883.302,79 m². With the official letter dated 14.07.2023 and numbered 6887050 of the General Directorate of National Real Estate of the Ministry of Environment, Urbanisation and Climate Change, the easement right of 171,777.19 m² area was allocated to Ümraniye Municipality for 29 years. The allocation letter is available in the annex of the ESMP (Annex C). Although it is registered as carpet land in the land registry, the zoning plan has been updated to designate the area as a 'Renewable Energy Production Area'. (Annex C)

Table 3.Subproject Location

Information	Remarks/ Notes
Province	Elazığ
District	Maden
Neighborhood/ Village	Camikebir Neighborhood
Land Area(ha)	88.3 ha
Land Use Type according to Title Deed	Fallow Land
Current Land Use	There are no agricultural activities or activities such as animal husbandry, livestock breeding, animal grazing on the land. It has not been previously used as a commercial enterprise by the municipality, institution or 3rd parties. The Energy Transmission Line (ETL) will be connected to the new Mining Energy DC Center, which will be constructed by taking 6,408.86 meters of overhead line from the Ümraniye Municipality Solar Power Plant Transformer Center. The new Mining Energy DC Center will be constructed immediately in front of the existing Mining Energy DC Center. The ETL will be overhead and will pass through the Treasury, forests, pastures, and unlicensed lands along its route. Additionally, the Ordu Küme Evler Street and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used in some locations. Private third-party lands will not be used. Applications for allocation permits have been submitted for publicly owned parcels (Treasury, forests, pastures, etc.) and unregistered lands (See Annex C). Because these parcels are treasury lands, the TEDAŞ Board of Directors, as the authorized institution, has decided, in its decision numbered 69-1324, dated July 22, 2025, that TEDAŞ will carry out the relevant work and procedures. The TEDAŞ Board of Directors' decision is included in the appendix of the ESMP (See – Title Deed)
Other Nearby Facilities and Activities	There are no other industrial or commercial activities operated/run or planned by the Sub-borrower itself or other public or private third parties in the vicinity of the sub-project or its components/associated facilities.

A map of the Subproject location is presented in figure Figure 1.

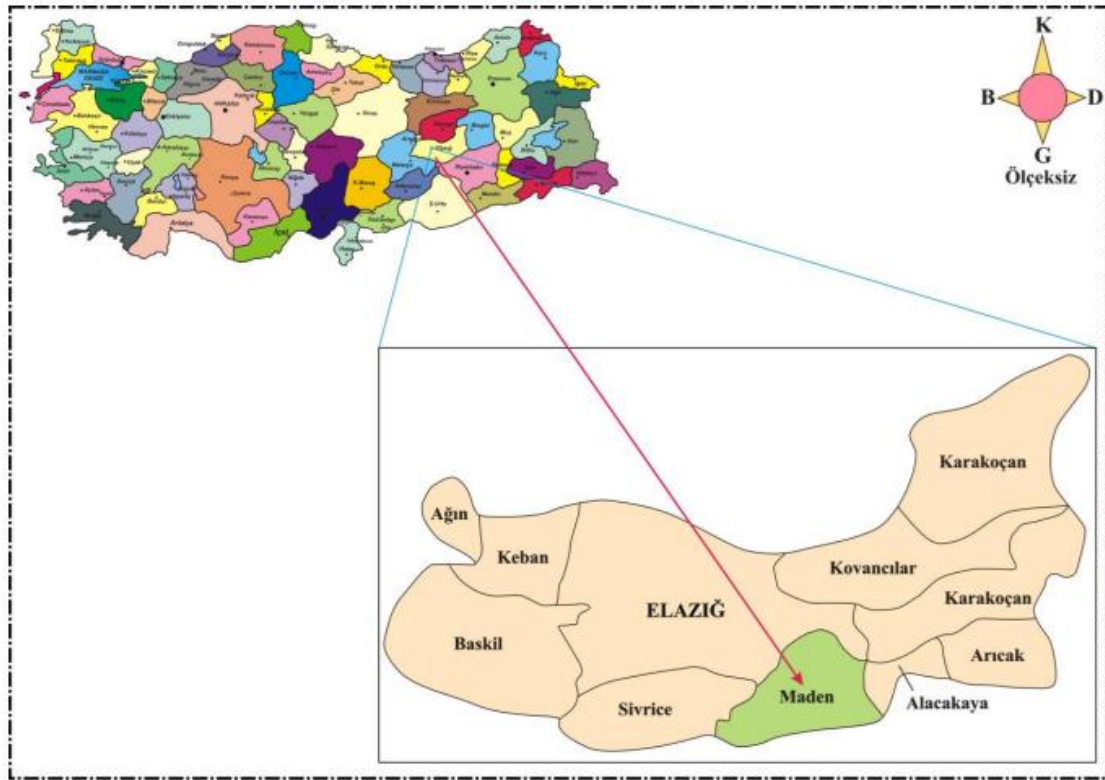


Figure 1. Map of Subproject Location

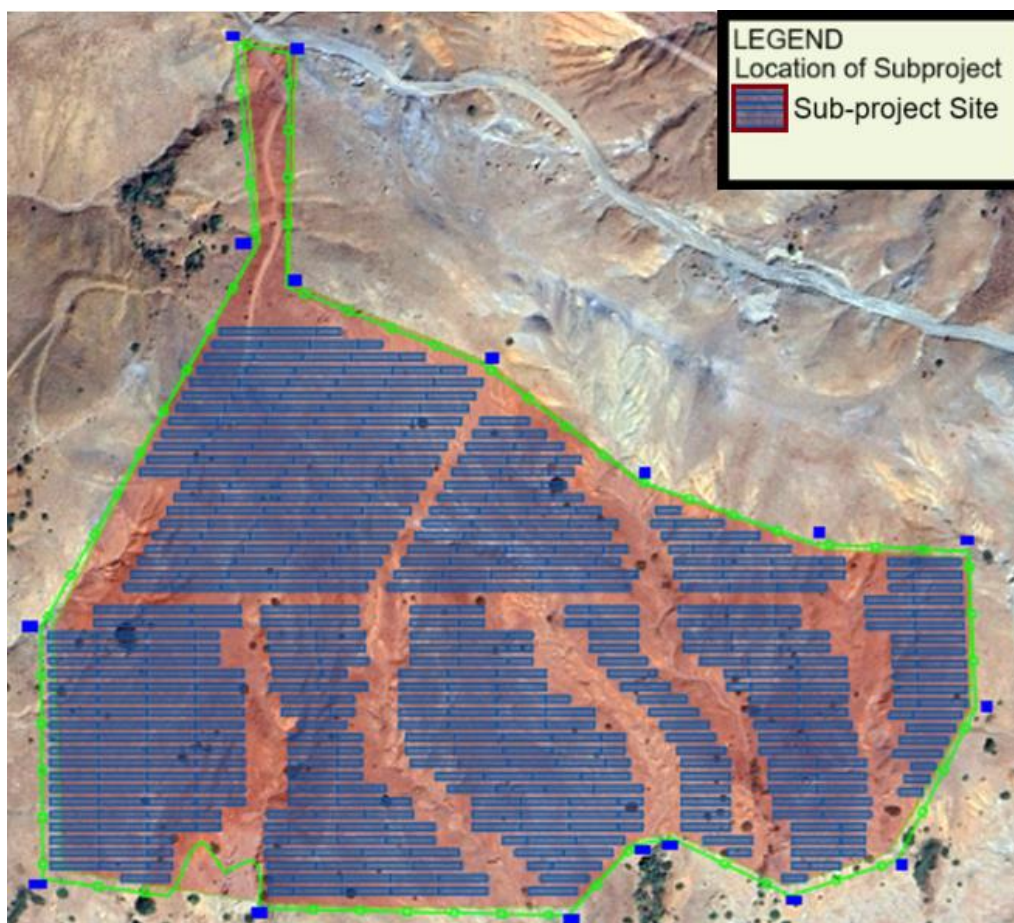


Figure 2.SPP Sub-project Site

Table 4.Coordinates of the Sub Project Area

CORNER NO.	COORDINATIONS		PAFTA
	Y	X	
1	554693.574947984	4250352.72878229	L43-a-13-b-4-a
2	554912.871545997	4250322.97731585	L43-a-13-b-4-a
3	555105.287501579	4250318.73588411	L43-a-13-b-4-a
4	555145.833449473	4250363.51360866	L43-a-13-b-4-a
5	555169.542802518	4250367.87536007	L43-a-13-b-4-b
6	555244.102278968	4250331.01090374	L43-a-13-b-4-b
7	555311.218743317	4250353.10971049	L43-a-13-b-4-b
8	555359.997877582	4250448.32735376	L43-a-13-b-4-b
9	555355.285893898	4250546.69617349	L43-a-13-b-4-b
10	555259.878228933	4250551.20783414	L43-a-13-b-4-b
11	555148.454197757	4250590.8633457	L43-a-13-b-4-a
12	555052.136087531	4250663.58192608	L43-a-13-b-4-a
13	554929.107464475	4250712.18095293	L43-a-13-b-1-d
14	554910.139946189	4250737.13077661	L43-a-13-b-1-d
15	554930.958009699	4250859.24900235	L43-a-13-b-1-d
16	554897.094635411	4250865.38138012	L43-a-13-b-1-d
17	554693.574947984	4250352.72878229	L43-a-13-b-4-a

1.6.2.Site Access Route

Maden-Diyarbakır motorway will be used for access to the site. Access to the SPP Facility will be provided from Ordu Küme Evler street and Sivrik Kullan Bahçeleri Küme Evler cadastral road. The road in question is a stabilized dirt road. The road is a smooth road suitable for the passage of panel loaded trucks and construction equipment. This road reaches to the SPP site. The access road route to the SPP site and the structure of the road is shown in Figure 3. There are no households around the access road. The main route determined for the Subproject will be notified to all subproject employees and warning signs will be placed on the route to be used for access to the subproject area.

Measures to be taken to prevent local people from being affected by emissions and traffic during the installation phase are given in the ESMP Matrix.



Figure 3.Subproject Sites Access Route

1.6.3. Energy Transmission Line (ETL)

Technical information regarding ETL is given in the Table 5. A map showing the ETL route and national grid connection location is given Figure 4.

The Energy Transmission Line (ETL) will be connected to the new Mining Energy DC Center, which will be constructed by taking 6,408.86 meters of overhead line from the Ümraniye Municipality Solar Power Plant Transformer Center. The new Mining Energy DC Center will be constructed immediately in front of the existing Mining Energy DC Center. The ETL will be overhead and will pass through the Treasury, forests, pastures, and unlicensed lands along its route. Additionally, the Ordu Küme Evler Street and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used in some locations. Private third-party lands will not be used, and no informal users have been identified along the route. Applications for allocation permits have been submitted for publicly owned parcels (Treasury, forests, pastures, etc.) and unregistered lands (See Annex C). Because these parcels are treasury lands, the TEDAŞ Board of Directors, as the authorized institution, has decided, in its decision numbered 69-1324, dated July 22, 2025, that TEDAŞ will carry out the relevant work and procedures. The TEDAŞ Board of Directors' decision is included in the appendix of the ESMP (See – Title Deed).

Table 5. Technical Information on the ETL

Information	Remarks/ Notes
Status of ETL	Overhead line
Transformer station (for national grid connection)	Maden Energy DC
Length of the route (km)	6.3
Voltage level (kV)	36 kV
Number of ETL towers (pylons)	40
Total footprint area per each ETL tower (m ²)	4 m2
Number of parcels subject to expropriation	There is no need for expropriation.
Number of parcels subject to easement rights ("irtifak hakkı")	-

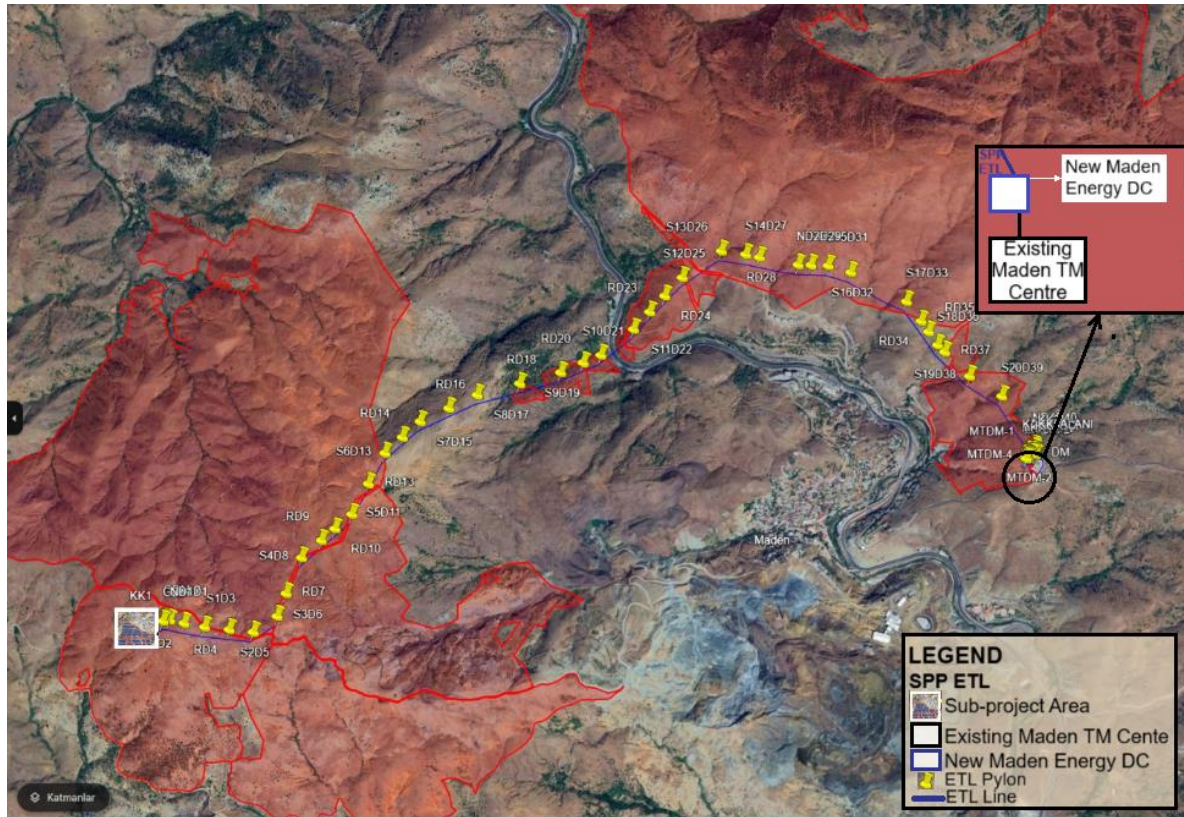


Figure 4. Map of SPP ETL Route

ÜMRANIYE MUNICIPALITY SPP ETL PYLON POINTS						
POLE	PROVINCE	DISTRICT	NEIGHBORHOOD	BLOCK	LOT	QUALIFICATION
ND1	ELAZIĞ	MADEN	CAMİİKEBİR	626	10	TREASURE
2	ELAZIĞ	MADEN	CAMİİKEBİR	626	10	TREASURE
3	ELAZIĞ	MADEN	CAMİİKEBİR	626	10	TREASURE
4	ELAZIĞ	MADEN	CAMİİKEBİR	626	10	TREASURE
5	ELAZIĞ	MADEN	CAMİİKEBİR	626	10	TREASURE
6	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
7	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
8	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
9	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
10	ELAZIĞ	MADEN	DUTPINARI	180	21	PASTURE
11	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
12	ELAZIĞ	MADEN	CAMİİKEBİR	629	108	TREASURE
13	ELAZIĞ	MADEN	DUTPINARI	180	21	PASTURE
14	ELAZIĞ	MADEN	DUTPINARI	-	-	EXCEPT REGISTRATION
15	ELAZIĞ	MADEN	DUTPINARI	-	-	EXCEPT REGISTRATION
16	ELAZIĞ	MADEN	DUTPINARI	-	-	EXCEPT REGISTRATION
17	ELAZIĞ	MADEN	DUTPINARI	-	-	EXCEPT REGISTRATION
18	ELAZIĞ	MADEN	CAMİİKEBİR	629	40	FOREST
19	ELAZIĞ	MADEN	CAMİİKEBİR	629	39	FOREST
20	ELAZIĞ	MADEN	CAMİİKEBİR	629	39	FOREST
21	ELAZIĞ	MADEN	CAMİİKEBİR	629	146	FOREST
22	ELAZIĞ	MADEN	BAHÇELİEVLER	641	2	TREASURE
23	ELAZIĞ	MADEN	BAHÇELİEVLER	641	2	TREASURE
24	ELAZIĞ	MADEN	BAHÇELİEVLER	641	2	TREASURE
25	ELAZIĞ	MADEN	BAHÇELİEVLER	641	2	TREASURE
26	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
27	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
28	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
29	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
30	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
31	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
32	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
33	ELAZIĞ	MADEN	KARATOP	102	2	FOREST
34	ELAZIĞ	MADEN	KARATOP	-	-	EXCEPT REGISTRATION
35	ELAZIĞ	MADEN	KARATOP	-	-	EXCEPT REGISTRATION
36	ELAZIĞ	MADEN	KARATOP	-	-	EXCEPT REGISTRATION
37	ELAZIĞ	MADEN	KARATOP	-	-	EXCEPT REGISTRATION
38	ELAZIĞ	MADEN	BAHÇELİEVLER	683	71	TREASURE
39	ELAZIĞ	MADEN	BAHÇELİEVLER	683	71	TREASURE
40	ELAZIĞ	MADEN	BAHÇELİEVLER	683	71	TREASURE

Figure 5.Sub-project ETL Pylon Points

1.6.4. Associated Facilities

There are no subproject-specific associated facilities.

1.6.5. Subproject Impact Area

According to WB ESS1, “where the project specifically identifies physical elements, issues and facilities that are likely to have an impact, the environmental and social risks and impacts will be identified in the context of the subproject’s Area of Influence (Aoi)”. When determining the environmental and social impacts arising from the subproject, the Area of Influence of the subproject has been taken into account. When calculating the environmental and social risks and impacts, for precautionary purposes, 100 meters of the subproject site and 100 meters around the areas where the ETL passes have been determined as the area of influence. The satellite image of the nearest settlement and its distances to the subproject site are given in the Figure 6. As can be seen from the figure, the nearest settlement to the sub-project area is Camikebir, which is 2.8 km away.



Figure 6. Sub-project area the nearest settlement

1.6.6. Environmental and Social Baseline

This section provides information on the environmental and social baseline of the sub-project. The explanations and information provided in this section on the current status of the sub-project area and its immediate surroundings are based on reports from relevant public and private organizations (Ministry of Agriculture and Forestry, Disaster Emergency Management Presidency, General Directorate of Meteorology, Ministry of Environment and Urbanization, Chamber of Industry and Commerce, Turkish Crops Data Service, Turkish Statistical Institute, Provincial Sectoral Action Plans, etc.) on field studies, Geographical Information Systems studies and satellite images for environmental physical, biological and socio-economic determinations.

The SPP power plant to be established by Ümraniye Municipality is located on lot 10 block 626 in Camikebir Neighborhood, Maden District of Elazığ Province. There is no agricultural or animal husbandry activity area or commercial enterprise on the land.

The summary of the field studies carried out within the scope of the ESMP study on 24.04.2025 is given in the Table 6.

Table 6. Summary of Baseline Field Studies

Subject	Date of the Field Study	Experts who Participated in the Field Study
Land acquisition	24.04.2025	A field visit was carried out by PVGLOBAL Energy, Environmental Expert and Social Expert on 24.04.2025. Consultations were held with Camikebir neighborhood mukhtar, Camikebir neighborhood residents, Maden District Social Assistance and Solidarity Foundation member, District Agriculture and Forestry Directorate official. The current environmental and social status of the subproject is provided in Section 2.
Utilization status of the sub-project area,		
Social and cultural structure of Camikebir neighborhood,		
Socio-economic status of the people of Camikebir neighborhood		
Status of health, education and infrastructure services in Camikebir neighborhood		
Information on vulnerable/disadvantaged groups in Camikebir neighborhood		
Environmental and social impacts of the subproject during construction and operation		
Research on the current status of Biodiversity, Cultural Heritage, Air Quality, Noise, Water Quality, Waste Management, etc.		

2.1.6.1 Physical Environment

2.1.6.1.1 Geology, Tectonics and Seismicity

The topographic structure of Maden district consists of pits and elevations due to volcanic effects. Maden Mountain extends in the southwest-northeast direction in the north of the district. The sub-project area is a mountainous land with a slope of 20-40 degrees, rugged in places, rocky surface and red soil structure. The sub-project area is located within the Eastern Anatolia Fault System and is a tectonically active region. According to the Earthquake Hazard Map of Turkey, the expected ground acceleration PGA-475 values in the sub-project area is 0.489 g (tdth.afad.gov.tr). The soil structure of the sub-project area is alluvial due to tectonic activities. The sub-project area is located in the 3rd risk zone according to the Landslide Hazard Map of Turkey (See Figure 7).

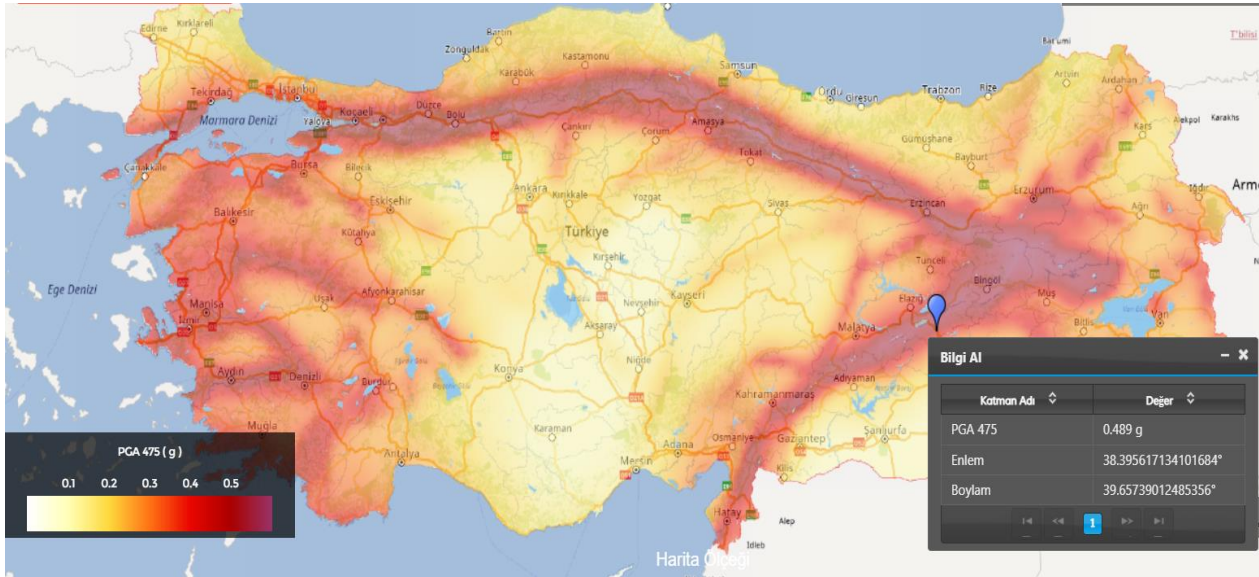


Figure 7. Türkiye Earthquake Risk Map of the Sub-project Area



Figure 8. Maden District Landslide Hazard Map

2.1.6.1.2 Soil and Land Composition

Camikebir is surrounded by the western extensions of the Taurus Mountains. The soil structure in and around Camikebir Neighborhood and the sub-project area has an alluvial, stony and thin-layered soil structure. There are mostly underground mines within the borders of Camikebir neighbourhood. However, 40% of the land can be cultivated. There are no underground mines or agricultural lands in and around the sub-project area. The land structure is mountainous and hilly.

The SPP area exhibits a 20-40% sloping topography. Tectonic rock fragments were observed in the SPP area during field studies. The soil starts with a terrestrial pebble at the base and then consists of sandstone, mudstone, pebble-limestone layers. The surface layer consists of a brown colored, soft layer 5-20 cm thick. No mass movements such as rock falls, landslides etc. have been observed in the SPP area. The project area is located at high elevation.

2.1.6.1.3 Meteorology and Climatic Characteristics

SPP Project sites has an annual sunshine duration of 2,664 hours and irradiation values of 1,588 kWh/m² . With the effect of technical, geographical and climatic parameters, it ranks important in terms of electrical energy production efficiency.

Based on 20-year temperature averages, the average annual temperature is 13.0°C. The highest values in terms of energy production are measured in July. The highest temperature measured in the region was 42,4°C (in July). The month with the lowest annual sunshine hours and efficiency is January.

The month with the highest daily sunshine hours in the SPP project is July with an average of 11.9 hours per day. There is a total of 360 hours of sunshine during July.

The month with the least daily sunshine hours in Maden is January with an average of 2.7 hours per day. There is a total of 81 hours of sunshine during January.

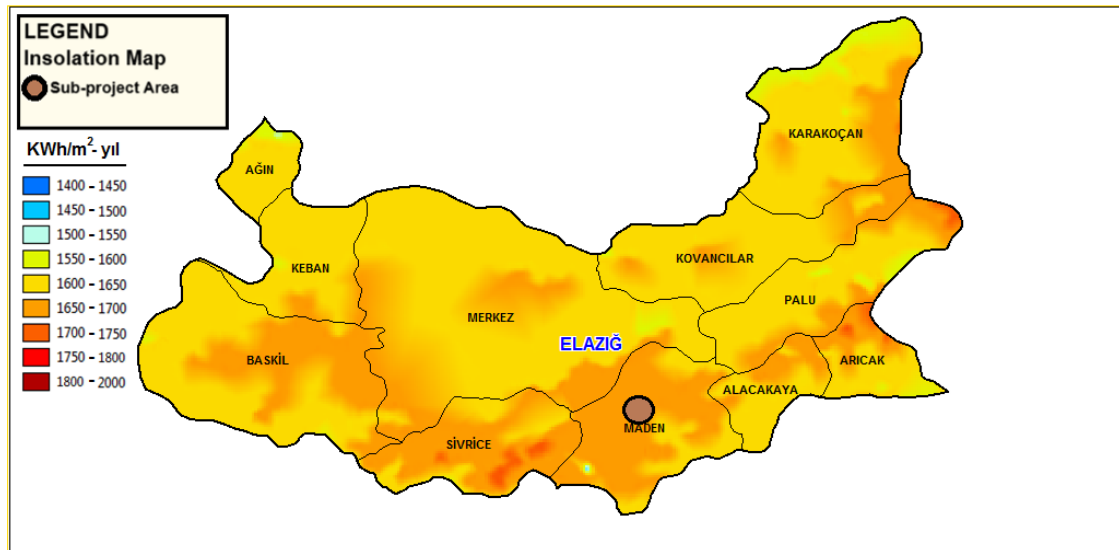


Figure 9.Elazig Province Insolation Map

Extreme Maximum, Minimum and Average Temperatures Measured in Long Period (°C)												
ELAZIG	January	February	March	April	May	June	July	August	September	October	November	December
Maximum Temp.	13.0	18.6	26.4	32.2	36.6	38.6	42.4	42.2	39.0	32.1	24.3	19.6
Minimum Temp.	-22.6	-21.4	-17.0	-7.0	0.0	4.0	6.7	10.2	1.0	-2.2	-15.2	-22.6
Average Temp.(1981-2010)	0.1	1.5	6.7	12.1	17.1	23.0	27.4	27.3	21.9	15.3	7.3	2.2
Average Max. Temp. (1981-2010)	4.0	6.3	12.4	18.4	24.2	30.7	35.2	35.2	30.1	22.6	13.1	5.9
Average Min. Temp. (1981-2010)	-3.1	-2.6	1.6	6.2	10.3	14.7	19.0	18.9	13.9	8.8	2.6	-0.9

Measured in Long Period							
Max. Precipitation	29/11/2008	67.7 kg/m2	Max. Wind	06/02/1992 08:56	NaN km/hour	Max. Snow Height	19/12/1951 68 cm

It has the most ideal energy efficiency due to the fact that the climate is set, less humid and the sunshine hours are high. Due to the high altitude of the SPP site, the winter season is quite harsh and cold. Snowfall is effective. Most of the precipitation in the form of rain falls in the spring season. The average rainfall is around 420 millimetres.

2.1.6.1.4 Air Quality

There is no Air Quality Measurement Device in Maden District. The nearest measurement station is located in Elazığ city center, 46 km away. According to the data of the Mobile Air Quality Measuring Device, it is seen that the WHO limit values valid for 2021 have been exceeded (See Figure 10). The most important reason for this is the air pollution caused by fuels such as wood and coal used for heating purposes in Camikebir District, especially in the winter months.

WHO's new guidelines recommend air quality levels for 6 pollutants, where evidence has advanced the most on health effects from exposure. When action is taken on these so-called classical pollutants — particulate matter (PM), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and carbon monoxide (CO), it also has an impact on other damaging pollutants. The current Air Quality Index Level of the WHO is given in the Table 7.

Table 7. Air Quality Index Level

Pollutant		WHO guidelines 2005	New WHO guidelines 2021
PM _{2.5}	Annual	10 µg/m ³	5 µg/m ³
	24-hour	25 µg/m ³	15 µg/m ³
PM ₁₀	Annual	20 µg/m ³	15 µg/m ³
	24-hour	50 µg/m ³	45 µg/m ³
O ₃	Peak season (the six consecutive months of the year with the highest six-month running-average ozone concentration)	---	60 µg/m ³
	8-hour	100 /m ³	100 µg/m ³
NO ₂	Annual	40 µg/m ³	10 µg/m ³ .
	24-hour	---	25 µg/m ³
	1-hour	---	200 µg/m ³
SO ₂	24-hour	20 µg/m ³	40. µg/m ³
	10 min	---	500 µg/m ³
CO	24-hour	---	4 mg/m ³
	8-hour	---	10 mg/m ³
	1-hour	---	35 mg/m ³
	15 min	---	100 mg/m ³

WHO 2021 AQG Levels (WHO, 2021)

MADEN / Months	SO ₂	AGS*	PM10	AGS*
JANUARY	8,92	-	43,62	-
FEBRUARY	7,63	-	36,47	-
MARCH	7,4	-	39,83	-
APRIL	6,3	-	41,66	-
MAY	6,18	-	38,55	-
JUNE	6,63	-	31,58	-
JULY	5,81	-	36,86	-
AUGUST	6,24	-	42,52	-
SEPTEMBER	5,84	-	40,22	-
OCTOBER	8,99	-	52,44	-
NOVEMBER	6,94	-	53,37	-
DECEMBER	9,39	-	53,47	-

Figure 10.Daily average PM10 and SO2 parameters value graph for 2024 (airizleme.gov.tr, 2024)

2.1.6.1.5 Noise

Environmental noise in Turkey is regulated by the Environmental Noise Control Regulation (ENCR), which entered into force with force with the Official Gazette numbered 32029 on 30.11.2022. The regulation specifies noise limits that can be applied to various areas (e.g. industrial facilities, transportation sources, music broadcasting organizations, etc.) for three time periods. Similarly, the WBG General Environment, Health and Safety Guidelines specify noise limits for two types of receivers and receivers and two time periods. The guideline requires that noise levels do not exceed the given levels or cause a maximum of 3 maximum of 3 dB increase in background levels at the nearest receiver location off-site. The limit values of national and international standards are summarized in tables (See Table 8 and

Table 9).

Table 8.Environmental Noise Level Limit Values

Noise Source	Measured Parameter	Environmental Noise Level		
		Daytime (07:00 - 19:00)	Evening (19:00 - 23:00)	Night (23:00 - 07:00)
Industrial facilities transportation resources	LAeq,5min.	65 dB(A)	60 dB(A)	55 dB(A)
Workplaces ⁽¹⁾	LAeq,5min.	Background + 5 dB(A)		Background + 3 dB(A)
In case of more than one workplace	LAeq,5min.	Background + 7 dB(A)		Background + 5 dB(A)
All sources	LCmax	100 dB(C)		

⁽¹⁾ : Each workplace contributing to the background noise level is jointly responsible for meeting this limit value. Each workplace takes necessary measures according to their contribution to noise.

Table 9. World Bank (WB) Noise Level Guidelines Limit Values (Leq-dBA for one hour)

Buyer	Daytime (07:00 - 22:00)	Night (22:00 - 07:00)
Settlement Areas	55	45
Commercial/industrial areas	70	70

Within the scope of the basic works of the sub-project, 12-hour noise measurements were made at a single point in front of the Maden Municipality Building in Camikebir neighborhood between 24.04.2025 and 25.04.2025. The measurement point was determined by considering the wind effect, environmental noise, location of construction activities and the immediate surroundings in terms of sensitive receptors. In the measurements made within the scope of the project, the preferred measurement location for the device was selected as 1 m away from any reflective surface and at least 1.5 m away from important sound transmission elements. However, since the Maden Municipality Building is 80 m away from the Elazığ-Diyarbakır highway, traffic noise occurred and the measurement values were above the limit values.

Table 10. Noise Measurement Results

Standards	Duration	Noise Limit Values (Leq dBA)	Measurement Results A- Belt Weight		
			Leq	L10	L90
National Environmental Noise Limit Values (Leq dBA)	Daytime (07:00- 19:00)	65	67.1	69.2	64.6
	Evening (19:00- 23:00)	60	66.8	68.9	63.7
	Nighttime (23:00- 07:00)	55	53.9	55.2	50.8
WBG Noise Level Guidelines Limit Values (One-hour Leq-dBA)	Daytime (07:00- 22:00)	55	67.1	69.2	64.6
	Nighttime (22:00- 07:00)	45	53.9	55.2	50.8

The measurement results are given in the Table 10. According to the measurement results, values exceeding the limit value for "Commercial and Residential Areas Where Most Workplaces Are Located" specified in the Regulation on Control of Environmental Noise were obtained. Measurement results exceeding the day and night limit values specified in the World Bank standards were obtained. Due to the necessity of being in a safe place and the need for electricity, measurements were made in front of the municipality building in Camikebir neighborhood (See Figure 11).



Figure 11. Location of Noise Meter

2.1.6.1.6 Water Resources

The most important stream of Maden District is Maden Creek. It is the main branch of Tigris River. Maden Creek, which takes its source from Elazığ Hazar Lake, starts from Işıktepe village of Maden District and passes through Camikebir neighborhood border and reaches Maden District center. It is 3.4 km away from the sub-project area. Ören Creek is 3.2 km away from the sub-project area and Boçan Creek is 700 meters away. There is also a dry stream bed 250 meters away (See Figure 13)

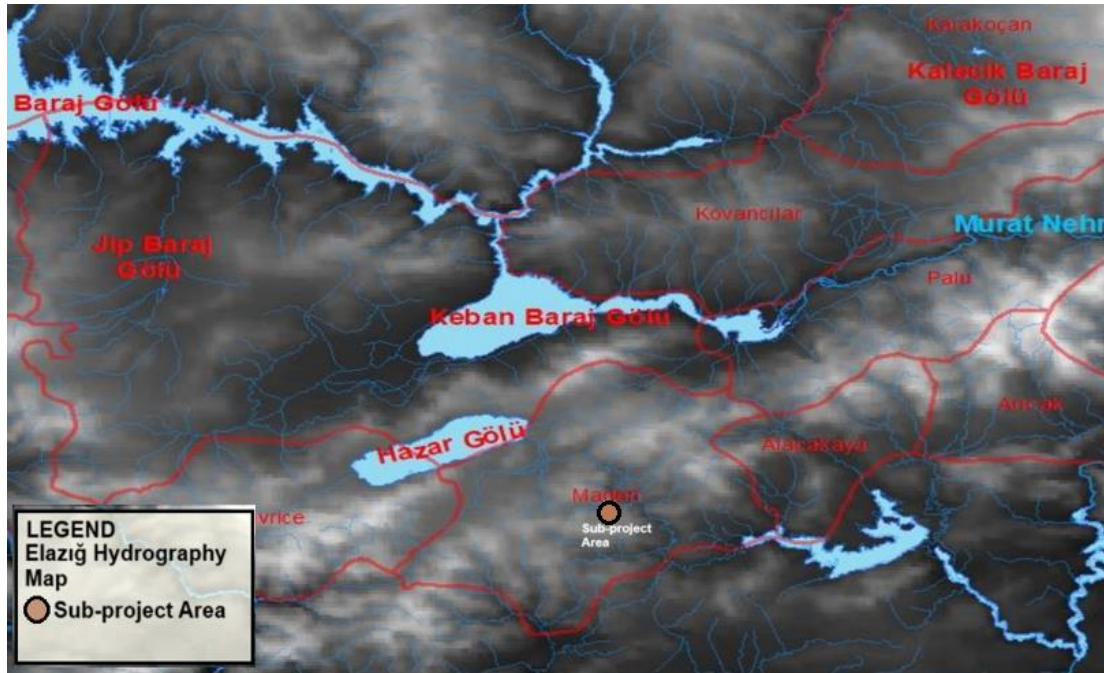


Figure 12. Maden Province Hydrography Map

The SPP site has an arid land structure under the influence of continental climate. Since the soil structure near the surface consists of crystallized limestone and sandstone, groundwater levels between 3.00 m and 9.00 m have been observed in the sub-project area. Changes in groundwater level can be observed depending on seasonal conditions.

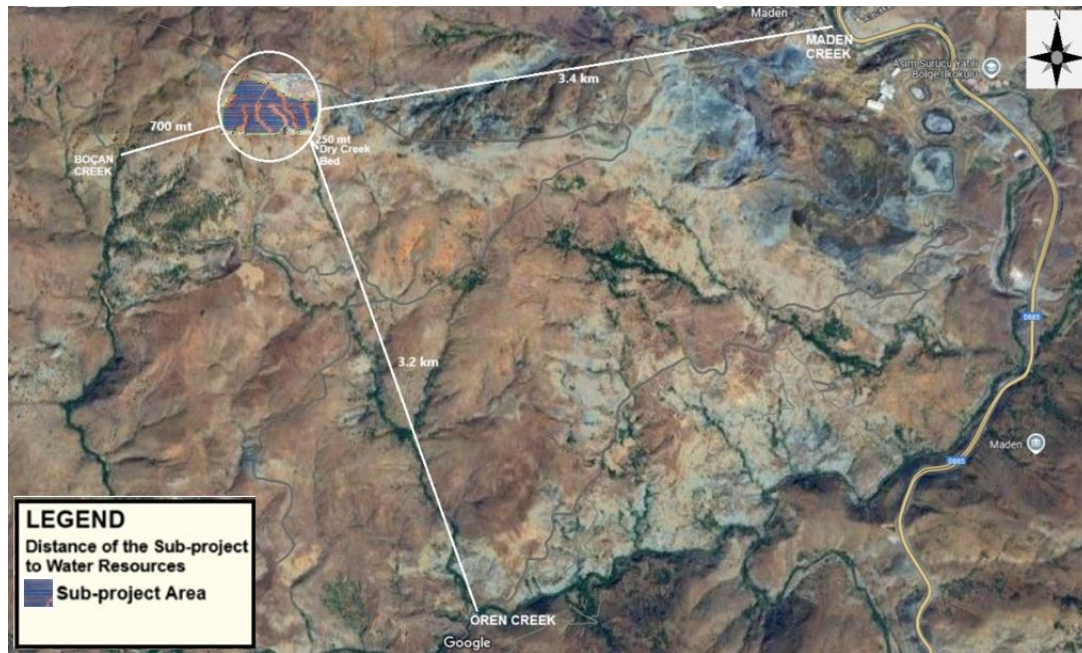


Figure 13. The closest water source to the sub-project site

2.1.6.1.7 Natural Hazards (such as flooding, landslides, fire, etc.)

The sub-project area is located in the 3rd risk zone according to the Türkiye Landslide Hazard Map. According to AFAD data, there is no record of any natural disasters caused by floods or fires in the sub-project area.

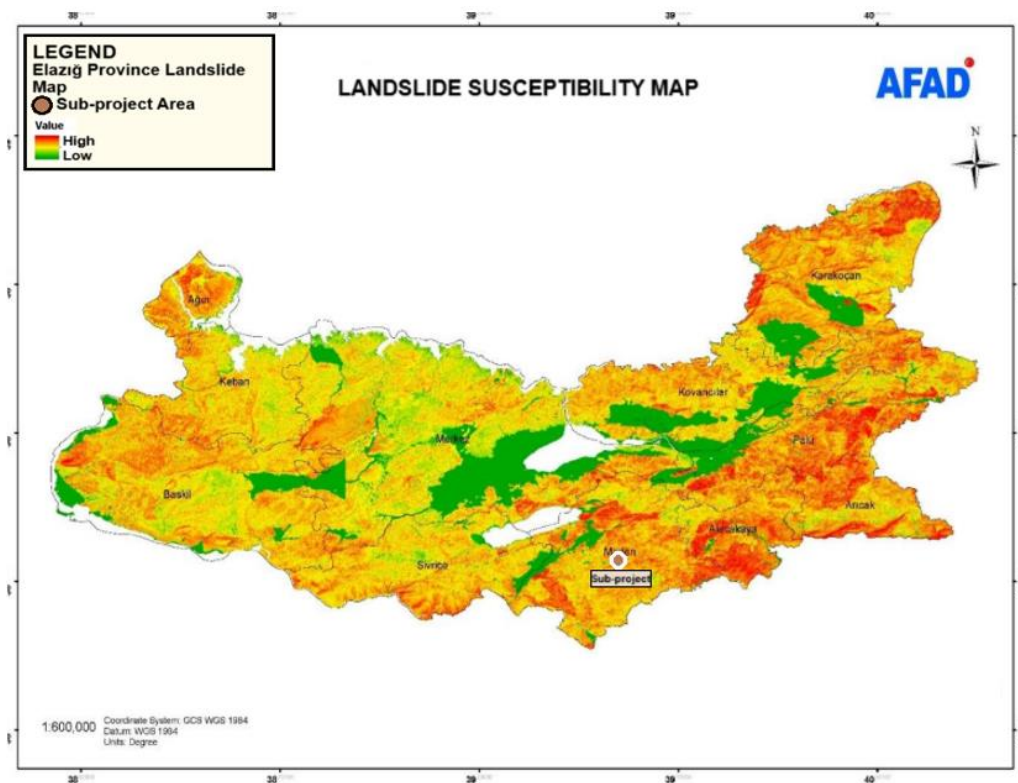


Figure 14. Sub-project Area Landslide Map

2.1.6.2 Biodiversity

This section has been developed to examine the status of the ecosystem and biodiversity in the sub-project area and its immediate surroundings, to present the flora and fauna inventory, to identify endemic, rare or endangered taxa, and to determine the endangerment categories of the identified taxa in accordance with the World Bank Environmental and Social Standards-6 (ESS-6): Biodiversity Conservation and Sustainable Management of Living Natural Resources (WB ESS-6).

Within the scope of Biodiversity Inventory and Monitoring studies, field research and literature studies were carried out in the sub-project impact area and Camikebir neighbourhood. In this context, the Biological Diversity Inventory and Monitoring Project for Terrestrial and Inland Water Ecosystems of Camikebir neighbourhood of Maden district is being carried out under the coordination of Regional Directorate of Nature Conservation and National Parks, General Directorate of Nature Assets Protection, Diyarbakır Regional Commission for the Protection of Natural Assets, Provincial Directorate of Environment, Urbanisation and Climate Change. As a result of the relevant studies, it is aimed to effectively protect biological diversity in Maden District and to prepare the necessary plans for sustainability, dynamic monitoring in temporal and spatial axis, protection of flora and fauna structure and protection of natural resources.

On 24.05.2025, the Consulting Company Environmental Expert made a field visit and consultations were held with the mukhtar of Camikebir neighborhood, the people of Camikebir neighborhood and the officials of the District Agriculture and Forestry Directorate. A literature review was conducted on the biodiversity of the region. Data on fauna species were collected through literature review and are included in the ESMP annex (See **Hata! Başvuru kaynağı bulunamadı.**).

2.1.6.2.1 Flora

The environmental expert of the consultancy company conducted research on the vegetation and flora species in the sub-project area and its surroundings. He consulted with the District Agriculture and Forestry Directorate officials and the people of Camikebir neighborhood about the flora diversity of the region. He conducted a literature review.

While no scientific flora identification study has been conducted in the region, it is generally accepted that the region hosts species falling within the boundaries of the Irano-Turanian, Euro-Siberian, and Mediterranean phytogeographic regions. The vegetation is generally degraded forest vegetation, secondary vegetation resulting from the destruction of the forest. Sparse oak communities and the main species of the steppe ecosystem form the understory. It is generally covered with herbaceous species and woody shrubs. During the field visit, it was determined that the dominant vegetation in the subproject area and its surroundings is steppe, consisting of shrubs and similar plants. There are no endemic species in the project area and its surroundings. The taxa identified in the field are of "Least Concern (LC)" and therefore do not pose any risk under the World Bank ESS-6. In the literature review on the flora of Elazığ region, information on the family, genus, species, Turkish names, endemism status, phytogeographic region, danger categories and protection status of the species in Elazığ and its surroundings, as well as information on the species protected under national legislation and international agreements, are included in the ESMP annex (See **Hata! Başvuru kaynağı bulunamadı.**). However, the plant taxa identified in the sub-project area and its surroundings have been evaluated within the scope of the Conservation and Sustainable Management of Biodiversity of Living Natural Resources (ESS6) standards, and there are no plant species that need to be protected.

2.1.6.2.2 Fauna

A field study was conducted on fauna species around the site visit of the environmental expert of the consultancy company. Consultations were held with the people of Camikebir neighborhood and the officials of the District Agriculture and Forestry Directorate regarding the fauna diversity of the sub-project area and its surroundings. A literature review was conducted on this subject, and publications were reviewed. The field study to determine the fauna species and their current status in the sub-project area was carried out in the form of observations of local people and literature review. Since the sub-project area is located in areas far from settlements and at high altitudes, it was determined that there were several species of birds, partridges, mice, rabbits, pigs, foxes, hedgehogs and weasels. It was determined that there were pigs, wolves and mountain goats at higher altitudes.

Animals such as wild mountain goats (*Capra aegagrus*), wolves (*Canis lupus*) and wild boars (*Sus scrofa*), which do not need shelter in winter, are rarely seen in the sub-project area.

As a result of the literature studies within the scope of the project, fauna species found or likely to be found in the project area and impact area were evaluated according to IUCN 2011.2 category, Demirsoy A. Red Data Book category and Bern Convention Annex-2 (Definitely Protected Fauna Species), Annex-3 (Protected Fauna Species) lists.

In addition, fauna studies were evaluated according to the additional lists of the '2023- 2024 Hunting Period Central Hunting Commission Decision' of the Republic of Turkey Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks, Department of Hunting and Wildlife.

There are no amphibian species living in and around the sub-project area.

2.1.6.2.3 National Parks and Nature Parks

There are no national parks and natural parks within the area of responsibility defined in Article 2 of the National Parks Law No. 2873 and determined in accordance with Article 3 of this law.

2.1.6.3 Socio-economic Environment

The main purpose of the ESMP is to identify and assess the potential positive and negative impacts that sub-project activities may have on the natural environment and the socio-economic well-being and conditions of the population (community and workforce) at local and regional levels. The following assessment is based on the sub-project characteristics and activities and the basic conditions in the sub-project area.

As a result of this assessment, relevant mitigation measures are developed to prevent, minimize, reduce and compensate for significant negative impacts and increase beneficial effects.

The Social Expert of PVGLOBAL Energy Consultancy Company conducted a site visit on 24.04.2025 and held consultations with the mukhtar of Camikebir neighborhood, Camikebir neighborhood residents, and the Maden District Social Assistance and Solidarity Foundation official.

Maden district is located in a mountainous region and the district has gained importance due to the copper deposits in the district. Ergani Copper Enterprise, which started production in Maden in 1939, produced copper with modern methods and gave Maden the brightest periods of its history. The increase in population, economic and commercial vitality in the district was made possible thanks to the copper enterprise. In addition, the factory brought to Maden the electricity, railway and even cinema of the modern world. Houses with heating systems and guesthouses were built for the workers. Therefore, the factory was not only a place of production but also provided the people with facilities that made living in Maden attractive.

2.1.6.3.1 Demography and Population

According to the interview with the Camikebir neighborhood mukhtar and the Turkish Statistical Institute (TUIK) 2024 data, a total of 2,025 people live in the Camikebir neighborhood. 1,054 of this population are male and 971 are female (TurkSTAT 2024). There are 250 students. It consists of people of Turkish and Kurdish origin. According to the information received from the Camikebir neighborhood headman's office, there are no refugees or immigrants. The distribution of the population by age is given in the Table 11. In the consultation with the mukhtar of Camikebir, there is no individual who is not registered in the population register but lives permanently in this neighbourhood.

Table 11. Population distribution of Camikebir neighborhood by age

Age	Population
0-10	91
10-25	235
25-40	622
40-55	676
55-70	382
70+	19
TOTAL	2025

Mukhtar interview 2024,

2.1.6.3.2 Land Ownership Status and Land Use by Affected People

The sub-project land is Treasury land and the easement right was allocated to Ümraniye Municipality for 29 years. During the field visit, it was determined that no agricultural, animal husbandry or commercial activity had been carried out in the sub-project area before, in consultations with the mukhtar of the Camikebir neighborhood and the people of Camikebir. No activity is currently being carried out. The Energy Transmission Line (ETL) will be connected to the new Mining Energy DC Center, which will be constructed by taking 6,408.86 meters of overhead line from the Ümraniye Municipality Solar Power Plant Transformer Center. The new Mining Energy DC Center will be constructed immediately in front of the existing Mining Energy DC Center. The ETL will be overhead and will pass through the Treasury, forests, pastures, and unlicensed lands along its route. Additionally, the Ordu Küme Evler Street and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used in some locations. Private third-party lands will not be used. Applications for allocation permits have been submitted for publicly owned parcels (Treasury, forests, pastures, etc.) and unregistered lands (See Annex C). Because these parcels are treasury lands, the TEDAŞ Board of Directors, as the authorized institution, has decided, in its decision numbered 69-1324, dated July 22, 2025, that TEDAŞ will carry out the relevant work and procedures. The TEDAŞ Board of Directors' decision is included in the appendix of the ESMP (See – Title Deed).

2.1.6.3.3 Employment and Means of Livelihood

The unemployment rate in Camikebir is below the Turkish average. According to the 2023 data of the Employment Agency (İŞKUR), the number of registered unemployed people in Camikebir neighborhood is 98. A significant portion of the people registered with İŞKUR in Camikebir neighborhood are people working in professions that do not require qualifications. There are 66 households that live on social assistance received from the state, associations or individuals.

According to data from the First Development Agency and the District Directorate of Agriculture and Forestry, production has decreased due to recent agricultural and livestock policies and economic losses, and approximately 10% of the district's population has migrated to Elazığ city center in search of employment. Seven percent of Camikebir's population continues to work in copper mines. Another 10% are public servants, with 420 retired. The district's land distribution is as follows: Of the total 93,900 hectares of land, approximately 19,555 hectares are meadows and pastures, 10,385 hectares are arable, and 28,100 hectares are forests. While 68 households are engaged in agricultural activities in the Bermaz Plain, only five households in the mountainous areas are engaged in animal husbandry. Small livestock farming is generally practiced, with approximately 2,000 head of small livestock being raised.

2.1.6.3.4 Education and Health Services

There is 1 primary school and 1 preschool in Camikebir neighborhood. Middle school and high school students go to the high school 1 km away in Maden district center. The schools are not on the transportation route to the sub-project site or nearby. The schools are 2.8 km from the subproject area. Information on the education levels of the people of Camikebir neighborhood is given in the Table 12. The literacy rate is quite high in Maden District and Camikebir neighborhood. According to the data of Camikebir neighborhood headman's office, there are no illiterate households.

Table 12. Education level of Camikebir Neighbourhood

Education Degree	Population
Primary education	1650
Middle school	1500
High school	450
Bachelor degree	125

Mukhtar interview 2024,

There is 1 family health center in Camikebir neighborhood. There is no natural gas infrastructure. There is also a hospital 2 km away in the Maden center. There is no problem in accessing health services.

2.1.6.3.5 Infrastructure Services

The Camikebir neighborhood has an electricity network, drinking and utility water networks, and sewerage infrastructure. The Camikebir neighborhood's sewerage network is connected to the district sewerage infrastructure. There is no

agricultural irrigation network. The transfer center, completed in 2024, ended the uncontrolled landfill system. Solid waste can be collected at this center and transported to the collection center regularly. Approximately 50,000 tons of solid waste are collected daily. This waste is then transferred to larger recycling facilities in Sivas. Access roads in the Camikebir neighborhood are asphalt..

2.1.6.3.6 Transportation and Traffic

Elazığ-Diyarbakır highway is used to reach Maden District. Elazığ-Diyarbakır highway will be used to reach the sub-project area. Ordu Küme Evler cadastral road and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used by separating from the main road at Camikebir neighborhood. The cadastral road in question is 7 meters wide and is a stabilized soil road. There are deteriorations in places on the road due to rainwater. The existing road reaches the sub-project area. No new road will be opened for the sub-project (See Figure 3).

2.1.6.3.7 Cultural Heritage (Tangible and Intangible)

The most important cultural heritage of the region is Çitli Mound. It is located within the borders of Çitli village, approximately 60 km southeast of Elazığ city centre and 35 km northeast of Maden district centre, 33 km away from the sub-project area. This mound is a settlement area known by archaeological excavations. There is also a historical clock tower in Maden city centre, 3 km away from the sub-project area.(See Figure 15)



Figure 15.Distance of the Subproject to Cultural Heritage

2.1.6.3.8 Vulnerable and Disadvantage Groups

Vulnerable groups refer to persons who, by virtue of gender identity, sexual orientation, religion, ethnicity, indigenous status, age, disability, economic disadvantage or social status. They can be affected by Sub-Project impacts differently than others and may be limited in their ability to claim or take advantage of sub-project benefits. Therefore, Ümraniye Municipality and the Contractor, will apply provisions for assisting disadvantaged or vulnerable individuals that may be more adversely affected by subprojects impacts.

During the construction and operation phases, there will be "vulnerable/disadvantaged" individuals/groups who are more likely to be adversely affected by subproject impacts and/or whose ability to realize the benefits of a subproject is more

limited than others. Such individuals/groups are more likely to be excluded from the mainstream participation process and may require special measures and assistance.

Specifically identified disadvantaged/vulnerable groups and the impacts that these groups are likely to face under the Sub-Project are given below;

➤ **Households with low or no income:**

- Individuals experiencing financial hardship may struggle to maintain their livelihoods due to the project's negative social and environmental impacts. They may be concerned about their livelihoods. Because these segments have difficulty accessing alternative income sources, even small losses can lead to serious financial hardship. Families that engage in livestock farming or small-scale agricultural activities in particular can find it difficult to access resources. Individuals in low-income households may not be able to access these job opportunities when seeking skilled labor. Individuals receiving state poverty pensions, those with low incomes below the minimum wage, or those with no income at all may have difficulty communicating their complaints, concerns, or opinions due to financial hardship, such as being unable to cover transportation costs or accessing grievance mechanisms. They may also have difficulty accessing activities.

➤ **Households with family members with physical and/or mental disabilities:**

- Construction activities may disrupt accessibility routes or facilities, limiting mobility and causing inconvenience. There are 13 households with physical and mental disabilities in Camikebir neighborhood.

➤ **Elderly people over 70 living alone and in need of care:**

- Construction activities may disrupt daily routines and access to essential services for the elderly, potentially causing inconvenience or stress. The number of elderly people over the age of 70 who live alone and need care in Camikebir neighborhood is 10 resident. .

Table 13. Vulnerable and Disadvantage Groups/ individuals

Vulnerable and Disadvantage Groups/ individuals	Number of People
Households with family members with physical and/or mental disabilities	13
Elderly people over 70 living alone and in need of care	10
Individuals with low or no income	268
Total Vulnerable and Disadvantage Individuals/Groups	291

During the field visit, it was determined that there was no one in Camikebir neighborhood who did not speak Turkish. It was also determined that there were no patients with chronic diseases requiring constant medical care or individuals in need of care.

The characteristics of disadvantaged and vulnerable individuals in Table 13 include those who experience restrictions in their access to development opportunities, often for economic, social or physical reasons. These groups/individuals often experience poor well-being, limited access to health services and lack of education and employment opportunities. The lack of social support systems and being at risk of discrimination also increase the vulnerability of these groups.

In the interviews with Camikebir neighborhood mukhtar, Camikebir neighborhood residents, there are no refugees or migrants among those affected by the sub-project or living in Camikebir neighborhood. In addition, there are no child or female-headed households. There were 66 households (170 individuals) receiving social assistance from the state and associations, and 41 unemployed households (98 individuals).

According to the above data, Vulnerable/Disadvantaged Groups consist of 291 people.

2. SUBPROJECT ACTIVITIES

3.1 Construction Phase

3.1.1 Construction Activities

Construction activities will be completed in 6 months. Detailed implementation schedule envisaged for the construction phase activities (including provisional acceptance) is presented in Chapter 5.

Construction phase activities are briefly described below:

- Pre-construction activities:
 - Land leveling will be conducted before starting the power plant construction and installation. Approximately 20-30 cm of topsoil and stones on the land will be cleared and the land should be prepared flat. The stripped topsoil will be used for landscaping and planting.
 - Before the construction, the survey engineer will determine the points where the columns and the wire fence for land security will be installed. The determined points should be marked appropriately and deviations in the column assembly will be prevented.
 - Access roads within the land will be opened.
 - Temporary shelter facility, temporary storage area and security hut will be constructed.
 - A leak-proof septic pit will be opened in accordance with the standards.
- Construction/ installation activities:
 - Pile driving operations will be carried out to place the panel feet.
 - Steel construction will be assembled for the installation of the panels.
 - Cable ducts will be opened and cables will be pulled.
 - Inverter will be installed and cables will be connected.
 - SPP transformer will be installed and the electrical distribution panel will be liaised.
 - Since ETL has overhead characteristics, pits will be dug for the pole locations and pole installations will be carried out.
 - ETL overhead conductors will be installed.
 - The sub-project area will be surrounded by a wire fence, the perimeter of the site and the roads will be illuminated with lighting poles. There will be security cameras and motion sensors on the lighting poles. There will be a hut with security personnel and a cctv monitoring room in the sub-project area.
- Construction machinery and equipment:
 - 1 excavator, 1 truck, 1 tractor and 1 bulldozer will be used during the construction process.
- Use of other resources and materials:

The facility will be decommissioned at the end of its 25-year economic life. In cases where the panels have reached the end of their lifespan or need to be replaced, the old panels will be revised and new panels will be positioned. The panels will be classified as hazardous waste. Accordingly, the dismantled panels will be sent to licensed disposal facilities. Sub-project once the service period is over, the land will be restored to its former state.

Main Materials and Resources Used in the Construction Phase:

- Construction Materials
- Steel profiles, fasteners (screws, nuts, etc.)
- Cable ducts, cable carrier systems
- Fencing materials (galvanized wire, poles)
- Electrical and Mechanical Equipment
- Photovoltaic panels

- Inverters
- Transformer and MV cells
- Grounding and lightning protection equipment
- Filling and Leveling Materials
- Stabilized materials (gravel, etc.)
- Temporary Structures
- Construction site offices
- Storage areas
- Water(personnel)
- Energy
- Fuel

Throughout the life cycle of the sub-project, key measures for the implementation of resource efficiency that can help minimise negative environmental impacts, reduce costs and maintain the environmental, social and economic sustainability of solar power generation are as follows:

- Optimized Design and Layout: Site selection and design optimization have been carried out to maximize solar energy capture while minimizing land use and environmental impacts. This includes consideration of factors such as availability of solar resources, terrain structure, land use patterns and potential environmental constraints.
 - Advanced Solar Panel Technologies: Investments are planned for high-efficiency solar panels that increase energy output per unit area, reduce the ecological footprint and material requirements for a given power output.
 - Energy Efficiency: Use of energy-efficient equipment and adoption of low-energy construction techniques will be ensured. Optimizing energy use during transportation, installation and operation of the proposed PV power plant will reduce overall energy consumption and associated greenhouse gas emissions.
 - Community Participation and Social Sustainability: Engaging with local communities and stakeholders throughout the project life cycle will help identify opportunities to enhance social sustainability, address community concerns and maximize local benefits, and contribute to the overall efficiency and acceptance of the proposed PV power plant.
- Supply of materials and equipment:
 - Local companies will be given priority in the procurement of panels, steel construction, inverters and other electrical equipment to be used in the sub-project.
 - Test and commissioning
 - The contractor, selected through a competitive bidding process, is responsible for the construction, logistics, design, test and commissioning, and provisional acceptance of the solar plant.
 - Decommissioning of temporary construction facilities
 - As there will be no accommodation in the sub-project area, only temporary construction facilities will be established.

There are no activities related to the Sub-Project that are outside the scope of the proposed financing.

3.1.2 Construction Facilities

Construction facilities to be used during construction activities are listed in

Table 14.

Table 14. Construction Facilities

Type	On-site or Off-site	Temporary or Permanent	List of Facilities
Temporary waste storage areas	On-site	Permanent	• Waste Panel • Hazardous waste • Domestic waste
Construction camp site	Off-site	Temporary	• The accommodation needs of employees will be met in the houses to be rented in Maden city center.
Security hut	On-site	Permanent	• For personnel responsible for the security of the sub-project site
Container for personnel	On site	Temporary	• Area where personnel's belongings are stored and where they can meet their eating, drinking and toilet needs.

3.2 Operation Phase

3.2.1 Operation Activities

During the operation phase, panel cleaning will be carried out 2 times a year. No chemicals will be used for panel cleaning. Panels will be cleaned with deionised pure water. Although it varies according to the pollution status of the panels in the washing process, 12 tonnes of water will be used for 1 MW on average. The municipality will supply panel cleaning water with tankers.

Resources Used During Operation:

- Energy; Electricity from the grid or solar energy for monitoring, control, lighting, and security systems.
- Water; Periodic cleaning of panels (usually with small amounts of distilled or locally sourced water).
- Spare Parts and Consumables
- Fuses, cable pieces, sensors
- Corrosion inhibitors
- Cleaning materials

Throughout the life cycle of the sub-project, key measures for the implementation of resource efficiency that can help minimise negative environmental impacts, reduce costs and maintain the environmental, social and economic sustainability of solar power generation are as follows;

- Recycling and Circular Economy Applications: A Recycling Plan will be developed for damaged or end-of-life solar panels and components to recover valuable materials such as silicon, glass and metals for reuse in production. The implementation of the recycling plan will be ensured throughout the life cycle of the proposed PV power plant. Adoption of circular economy principles will minimize waste generation and resource depletion.
- Water Saving: Reduction of water consumption, including cleaning activities of PV panels, and minimization of impacts on local water resources will be ensured throughout the life cycle of the proposed PV power plant.

Weed removal will be carried out in the sub-project area to prevent weeds under and around the panels from reducing production efficiency by creating shadows, to reduce the risk of fire, to keep access roads open, and to prevent pests from harboring around cables and equipment. To achieve this, periodic mowing will be carried out using diesel or electric lawnmowers and scythes. Gravel will be spread on the ground to prevent weeds from emerging.

3.2.2 Operation Facilities

The operating facilities are described in the Table 15.

Table 15. Operation Facilities

Component	Characteristics
Solar panels	550 Wp (monoperc) 24960 piece panels
Mounting structures	Steel Construction
Inverters, transformers, etc.	38 piece inverters (300 kW) 6 piece 2500 kVa transformers
Control room, building, system, etc.	RS-485
Energy monitoring system	SCADA System
Grounding system	A grounding system designed in accordance with IEEE 80 2000 will be installed to prevent step and touch voltages that may occur due to short circuit fault currents.
Lightning protection system	Active Lightning Rod Method
Fire preparedness and firefighting facilities	Fire extinguisher 6 kg (30 pieces)
Security facilities	Security Staff,CCTV System ,Motion sensor,Wire Fence

3.3 Labor Requirements

Number of workers (at peak) that will work on site during the construction and operation phases of the sub-project are provided in Table 16.

The contractor company is responsible for meeting the accommodation needs of the personnel to be employed within the scope of the sub-project. Accommodation and shelter activities will be carried out in houses to be rented in Maden city center. Houses will be rented in accordance with the number of personnel. During the construction process, a temporary shelter area will be provided where the personnel will store their clothes, meet their food, beverage, rest, shower and toilet needs. In addition, 1 temporary storage container and 1 security booth will be constructed (See Figure 16).

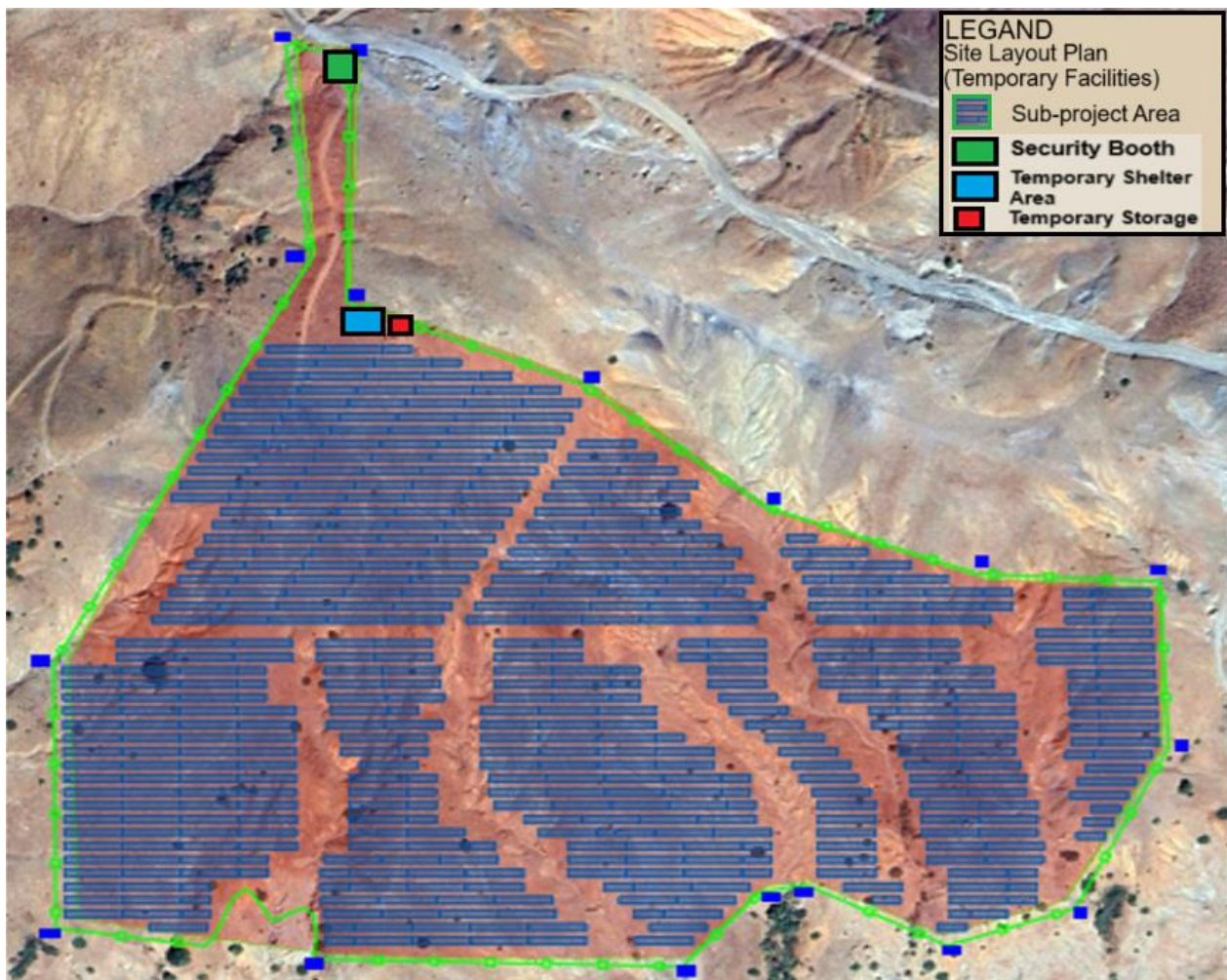


Figure 16. Buildings to be constructed within the scope of the sub-project

Table 16. Labor Requirements of the Subproject

Phase	Number of Workers (including contractors and subcontractors)	Planned Accommodation Arrangement
Construction Workers (at peak)	40	Off-site accommodation
Operation Workers(Technical Personnel)	2	Off-site accommodation
Operation Workers(Security guard)	2	On-site accommodation
Operation Workers(The cleaner)	1	Off-site accommodation

3.4 Land Acquisition Status

Ümraniye Municipality SPP project is planned on lot 10 block 626 in Camikebir Neighborhood, Maden District of Elazığ Province. lot 10 block 626 is Treasury Finance land and is 883.302,79 m². With the official letter dated 14.07.2023 and numbered 6887050 of the General Directorate of National Real Estate of the Ministry of Environment, Urbanisation and Climate Change, the easement right of 171,777.19 m² area was allocated to Ümraniye Municipality for 29 years. The allocation letter is available in the annex of the ESMP (See Annex C)

The Energy Transmission Line (ETL) will be connected to the new Mining Energy DC Center, which will be constructed by taking 6,408.86 meters of overhead line from the Ümraniye Municipality Solar Power Plant Transformer Center. The new Mining Energy DC Center will be constructed immediately in front of the existing Mining Energy DC Center. The ETL will be overhead and will pass through the Treasury, forests, pastures, and unlicensed lands along its route. Additionally, the Ordu Küme Evler Street and Sivrik Kullan Bahçeleri Küme Evler cadastral road will be used in some locations. Private third-party lands will not be used. Applications for allocation permits have been submitted for publicly owned parcels (Treasury, forests, pastures, etc.) and unregistered lands (See Annex C). Because these parcels are treasury lands, the TEDAŞ Board of Directors, as the authorized institution, has decided, in its decision numbered 69-1324, dated July 22, 2025, that TEDAŞ will carry out the relevant work and procedures. The TEDAŞ Board of Directors' decision is included in the appendix of the ESMP (See – Title Deed).

Access to the SPP Plant will be provided from Ordu Küme Evler street and Sivrik Kullan Bahçeleri Küme Evler cadastral road. The road in question passes through the SPP plant boundary.

Table 17. Land Acquisition Status for the Sub-project and Associated Facilities

Sub-project Component & AF	Lot/ Parcel No.	Current Land Ownership (e.g. Applicant Sub-borrower, Private Person, Legal Entity), Treasury, Non-registered, Other)	Type of Parcel (according to Title Deed) (e.g. Agricultural, Pasture, Raw Soil, etc.)	Land Acquisition Method (e.g. Purchase, Lease, Allocation, Easement Rights, etc.)	Title Deed Area of the Parcel (m ²)	Area to be Used by the Sub-project (m ²)	Status of Land Acquisition
SPP Area	Lot 10 of block 626	Treasury	Raw Soil	Allocation	883.302,79 m ²	171,777.2 m ²	Treasury Allocation
ETL	See Figure 5. Sub-project ETL Pylon Points)	Treasury	Raw Soil	Allocation		160 m ²	Treasury Allocation
Access route	Lot 10 of block 626	Treasury	Raw Soil	Allocation	883.302,79 m ²	500 m ²	Treasury Allocation

3.5 Permitting Status

Status of permits, licenses, approvals required to be in place before start construction is presented in Table 18.

Table 18. Status of Permits for the Construction Phase

Permit, License, Approval	Status (In place, Not in place)	Remarks/ Notes
EIA Decision for the Power Plant	In Place	13.728 kWp / 11221 kWe SPP Project, published in the Official Gazette dated 25.11.2014 and numbered 29186 (revised in the Official Gazette dated 29.07.2022 and numbered 31907). Since it is above the 10 MWe energy production stipulated in the EIA Regulation, it is within the scope of EIA in accordance with the legislation. The official letter and document of the Ministry of Environment, Urbanisation and Climate Change 'EIA Positive Decision' dated 04.09.2024 and numbered 10353572 is available in the annex of the ESMP. (See Annex B) With the letter dated 03.03.2025 and numbered 11905809 of the Elazığ Provincial Directorate of Environment, Urbanization and Climate Change, the 'EIA Out of Scope' decision for the Energy Transmission Line was given (See Annex B).
Please list any other permits required to start construction of the Subproject.	In Place	Land Class Determination of Provincial Directorate of Agriculture dated 27.07.2023 and numbered 10683681 and Permission Letter dated 07.02.2024 and numbered 13432655 (See Annex B) By the TEDAŞ Board of Directors decision numbered 69-1324 dated July 22, 2025, a decision was made to establish easement rights over the area related to the ETL and to carry out expropriation procedures(See Annex B). Ministry of Environment, Urbanization and Climate Change General Directorate of Spatial Planning, Letter No. 9801108, dated 02.07.2024(See Annex B). Easement Permission Letter of the National Real Estate Directorate, dated 14.07.2023 and numbered 6887050, Declared as a Renewable Energy Area(See Annex B). AFAD Directorate's Opinion of Conformity No. 847827 (See Annex B) Permission Letter No. 4748156 of Diyarbakır Regional Board for the Protection of Cultural Assets. (See Annex B) DSİ General Directorate of Survey, Planning and Allocations Department's Authorisation Letter No. 4422746 (See Annex B) Permission Letter of the General Directorate for the Protection of Natural Assets dated 28.02.2024 and numbered 8904443 (See Annex B)

3. ESMP MATRIX: RISK AND IMPACTS, MITIGATION AND MONITORING

As the Subproject involves both construction and operation activities, the ESMP consist of two components applicable to respective Subproject phase, as follows:

Construction ESMP Matrix, Operation ESMP Matrix

Roles and responsibilities related to implementation of this ESMP is defined in Section 5.2.

A stand-alone sub-project specific Stakeholder Engagement Plan (SEP), including Grievance Mechanism, has also been developed and will be implemented for the sub-project throughout the sub-financing agreement life cycle.

Other E&S management plans and procedures that will support implementation of the ESMP and SEP are listed in Section 4.8(See Table 37).

The installation process is planned to be 6 months. Excavation and driving machines will be used intermittently only for a maximum of 6-8 week of this process.

As the sub-project owner, it is Ümraniye Municipality's responsibility to manage the environmental and social issues of the sub-project and ensure that the necessary mechanisms are developed and implemented by the Contractor and/or Sub-Contractor.

It is anticipated that some environmental and social impacts may occur during the pre-construction, land preparation, construction and operation phases of the Ümraniye Municipality SPP planned within the scope of the subproject.

The management of the risks and impacts that may occur on the environmental and social components during the pre-construction, land preparation, construction and operation phases and the relevant mitigation measures defined for these impacts are given in Section 4.4.

It should be noted that for the implementation of the mitigation plans, the strictest national legislation and WB standards will be followed and the most up-to-date legislation will also be taken into account. Monitoring plays a key role in ensuring the continuity and effectiveness of the implementation of the determined mitigation management strategies. The main purpose of the Monitoring Plan is to provide a basis for evaluating the implementation of the measures and requirements envisaged in this ESMP. Information collected through monitoring can be used to improve management plans at all stages of the sub-project. Although the impact assessment attempts to cover all potential relevant impacts to determine their significance and include appropriate responses for these impacts, unexpected impacts may arise that can be managed or mitigated before they become a problem using information obtained through monitoring. Therefore, monitoring will ensure successful implementation of mitigation/management plans and optimize environmental protection through good practices at all stages of the sub-project.

4.1 E&S Risk and Impacts of the Subproject

This section identifies the potential environmental and social impacts and risks that could arise from the activities of the Subproject either during the construction phase or the operational phase.

The highlighted impacts listed in below are broad and envisaged as cutting across most of the Sub-project. The specific potential impacts and risks for each Subproject will be provided in E&S assessment section of its feasibility report.

Typical Subproject activities to be implemented are broadly categorized into:

- Construction phase,
- Operation phase,

General, cross-cutting potential environmental impacts, which could be expected for all Subproject, are presented below.

4.2 Construction Phase

4.2.1 Environmental Impacts and Risks

4.2.1.1 Waste

Waste generation is expected to be as follows:

- Construction waste is expected to be generated during power plant installation works. Chemical wastes will be collected and transported by licensed trucks to licensed waste disposal facilities in accordance with the Waste Management Regulation.
- It is expected that domestic solid waste will be generated during the construction and operation phases. Domestic solid waste will be collected by the Maden Municipality and transferred to the wild storage area by the municipality.
- Solar panels may contain hazardous materials such as cadmium, zinc, lead, CFCs, etc. Unless broken waste panels will be managed with appropriate waste management systems or in the event of an accident/explosion/fire during the construction phase, these substances can be released. And may cause negative environmental impacts. Hazardous wastes that will be generated during all phases of the Project will be collected separately in closed and sealed containers according to their characteristics and types in line with the Waste Management Regulation and will be transported to licensed waste transportation companies and licensed disposal facilities.
- Recyclable waste is mainly from packaging materials. There will be bins for recyclable waste in the sub-project area. These wastes will be collected by Maden Municipality and disposed of by licensed companies.
- Protective equipment such as masks, gloves, etc. used due to pandemic control conditions will be considered as medical waste. Protective equipment of all personnel will be considered as medical waste. These will be stored and disposed of separately from other wastes in accordance with the Medical Waste Control Regulation.

All employees will be trained on waste management to raise awareness on waste minimization. Mitigation measures against the potential impacts of the above mentioned wastes are included in Section 4 of this plan.

Domestic Solid Waste

Assuming that the amount of domestic solid waste generated by personnel during the construction and operation phase of the project is 1.03 kg/day per person (average waste amount per person (kg/person-day), TurkSTAT, 2023);

A total of 40 personnel will work during the sub-project construction phase. Accordingly, the amount of waste to be generated daily is;

$$40 \text{ person} * 1.03 \text{ kg/person} = 41.2 \text{ kg}$$

Domestic solid waste will be collected in closed and leak-proof garbage bins that will not emit odors. Domestic solid waste will be transported daily to the nearest municipal garbage collection center. During the activity; The provisions of the "Waste Management Regulation" and its amendments, which came into force after being published in the Official Gazette dated 21.06.2021 and numbered 31523, will be complied with.

Packaging Waste

It has been accepted that approximately 13.5% of recyclable packaging waste will be generated among domestic solid waste (TurkStat, 2023). Any packaging waste that may be generated will be collected separately from solid waste and will be recycled by giving it to packaging waste collection-sorting facilities that have an environmental license.

When the rate given above is compared to the daily waste amount;

$$41.2 \text{ kg} * 0.135 = 5.56 \text{ kg}$$

The "Packaging Waste Control Regulation", which came into force by being published in the Official Gazette dated 21.06.2021 and numbered 31523, and the "Waste Management Regulation" and its amendments, which came into force by being published in the Official Gazette dated 12.07.2019 and numbered 30829. "Zero Waste Regulation" and its relevant provisions will be complied with.

Hazardous Waste

Since the maintenance of the equipment to be used during the construction phase of the activity will be carried out by the authorized service, there will be no hazardous waste generation originating from the machinery and equipment in the activity area. In case of occurrence, safe temporary storage will be established at a point determined in the activity area and hazardous wastes will be stored here. Wastes will be stored in closed and sealed boxes. The waste in question will be classified according to their characteristics according to the "Waste Management Regulation" and the label "hazardous or non-hazardous waste" will be written on the temporarily stored waste, the waste code will be written and the waste will be accumulated in the temporary waste storage area in a way that it will not react with each other. These accumulated wastes will be delivered to companies licensed by the Ministry of Environment and Urbanization. The provisions of the Waste Management Regulation (Amended: Regulation on Amendments to the Waste Management Regulation, Official Gazette, dated 02.04.2015 and numbered 29314) which entered into force upon publication in the Official Gazette dated 23.06.2021 and numbered 31523 will be complied with.

Panels that become waste during the construction phase will be collected in the temporary storage area in the sub-project area. Hazardous wastes in the temporary storage area will be sealed to prevent them from mixing with the soil. Waste panels collected in a secure area will be delivered to licensed recycling facilities with code 16 02 04. The glass and precious metals contained in the panels will be recycled as raw materials for the circular economy, while the remaining part will be disposed of as hazardous waste.

Waste Oils

Within the scope of the Project, it is planned that the maintenance and repair of the machines will be carried out at the authorised services located in the region. However, in cases where it is not possible to take the work machines to the service area in case of any malfunction, maintenance and repair of the machines will be carried out in a rain-free environment, on sealed ground. Waste oils spilled accidentally on the impermeable floor will be removed from the concrete floor with absorbent materials before reaching the receiving environment and will be disposed of according to the provisions of the 'Regulation on Control of Waste Oils'. Waste oils will be collected in sealed containers and given to licensed waste oil collectors.

Contamination of soil and surface waters with mineral oils will be prevented. In addition, daily, weekly and monthly maintenance of the machines to be used in the plant will be carried out regularly and oil leaks will be prevented. Waste oils will be collected in leak-proof waste oil containers and given to recycling facilities licensed by the Ministry of Environment, Urbanisation and Climate Change.

Waste Batteries and Waste Batteries

Waste batteries that may be removed from vehicles in the project area will be returned to the vendors and replaced with new batteries. Batteries used in the field will be reused by ensuring that they are rechargeable. Used batteries will be collected in battery collection boxes and left at collection points belonging to TAP (Portable Battery Manufacturers and Importers Association). The "Regulation on the Control of Waste Batteries and Accumulators" and its relevant provisions, which came into force after being published in the Official Gazette dated 31.08.2004 and numbered 25569, will be complied with.

Medical Waste

According to the 'Regulation on the Control of Medical Wastes' published in the Official Gazette dated 25.01.2017 and numbered 29959, the medical wastes that will be generated at all stages of the activity will be handled by using red plastic bags that are resistant to tearing, puncture, explosion and transport, made of original medium density

polyethylene raw material with leak-proof properties, with a lifting capacity of at least 10 kilograms, large enough to be seen on it and bearing the 'International Biohazard' emblem and the phrase 'CAUTION MEDICAL WASTE' on both sides. The bags will be filled at most ¾ full, the mouths will be tightly tied and absolute sealing will be ensured. These bags will not be recycled or reused in any way. The contents of medical waste bags shall not be compressed under any circumstances, medical waste shall not be removed from the bag, emptied or transferred to another container. Medical, hazardous and domestic wastes and packaging wastes will be collected separately at the source without mixing with each other.

Separately collected medical waste will be delivered to licensed Medical Waste Sterilisation facilities authorised by the Ministry of Environment, Urbanisation and Climate Change with Medical Waste Transport Vehicles allocated for this purpose only.

4.2.1.2 Water Supply and Wastewater Management

Ümraniye Municipality SPP Project will be constructed in Maden District Camikebir neighbourhood, lot 10 block 626, and it is planned to employ 40 personnel during the construction phase. For per capita drinking and potable water consumption, data of Maden District of Elazığ Province is taken as basis and it is assumed to be 327 L/day (TurkSTAT, 2022)

$40 \text{ people} * 327 \text{ L/day*person} = 13.9 \text{ L/day}$

Within the scope of the project, the Regulation on Waters for Human Consumption, which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730, and the "Regulation on Waters for Human Consumption" published in the Official Gazette dated 31.07.2009 and numbered 27305, will be complied with.

According to TÜİK 2022 data, the amount of wastewater per person is calculated as 197 L/day. 40 people will work at the facility during the construction phase. Daily wastewater amount:

$197 \text{ L/day-person} * 40 \text{ person} = 7,9 \text{ L/day}$

The water requirement for suppressing the dust generated in the project area due to construction work will be met by using water trucks filled from the municipal infrastructure of Maden Municipality. Drinking water and water used for suppressing dust during construction will be provided from the district water network.

The total construction area within the scope of the project will be approximately 171,777.19 m². 5 liters of water will be used per square meter. Accordingly, water will be used to prevent dust emissions.

$171,777.19 \text{ m}^2 * 5 \text{ liters/m}^2 = 858,886 \text{ L}$

Within the scope of the project, the Regulation on Waters for Human Consumption, which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730, and the "Regulation on Waters for Human Consumption" published in the Official Gazette dated 31.07.2009 and numbered 27305, will be complied with.

4.2.1.3 Dust Emission Exhaust Gases Emissions

Air pollution will mainly originate from dust emissions and exhaust emissions as well as Greenhouse Gas (GHG) emissions. Considering the location of the sub-project area, sensitive receptors are not expected to be affected. During the construction phase of the sub-project, the impacts on air quality will mainly originate from dust, exhaust and greenhouse gas emissions:

- Dust emissions during site preparation, excavation, filling and compaction works carried out for construction works.
- Dust emissions from vehicle movements for transporting various construction materials to the project site.
- Exhaust emissions from vehicles used in construction activities.
- Greenhouse gas emissions from small amounts of vehicles and machinery.

The provisions of the Exhaust Gas Emission Control Regulation, which was published in the Official Gazette dated 11.03.2017 and numbered 30004, shall be complied with.

Calculation of dust emissions from topsoil stripping

The emission factors given in the "Regulation on Industrial Air Pollution Control" published in the Official Gazette dated 03.07.2009 and numbered 27277 were used in the calculation of the dust emissions to be produced and the results were evaluated within the framework of the "Regulation on Industrial Air Pollution Control".

The calculations were made using both "uncontrolled" emission factors, considering that the most adverse conditions could occur during dust formation, and "controlled" emission factors, assuming that the necessary control measures were taken.

Table 19. Control of Industrial Air Pollution

Sources	Uncontrolled	Controlled	Unit
Removal	0.025	0.0125	kg/hour
Loading	0.0100	0.005	
Unloading	0.010	0.005	
Transportation (total round trip distance)	0.7	0.35	kg/km-vehicle
Storage	5.8	2.9	Dust/ha-day

Mass Flow Rate of Dust Emission to Occur During Removal, Loading and Unloading of Vegetal Soil

Uncontrolled; $E_1 = (0.025 + 0.01 + 0.01) \text{ kg/hour} = 0.045 \text{ kg/hour}$

Controlled; $E_1 = (0.0125 + 0.005 + 0.005) \text{ kg/hour} = 0.0225 \text{ kg/hour}$

Mass Flow Rate of Dust Emission to Occur During the Transportation of Topsoil

The topsoil taken from the site during construction work will be temporarily stored in the topsoil storage area, which will also be located within the work area; considering the size of the land, this distance is an average of 0.50 km. Assuming that each truck to be used during transportation can carry 25 tons of material, and therefore approximately 1 trip will be made in 1 working hour (25 tons/ 1 tons/hour), the mass flow rate of dust emission to occur during transportation is;

Uncontrolled; $E_2 = (0.7 \text{ kg/km}) \times (0.50 \text{ km/1 trip}) \times (1 \text{ trip/1 hour}) = 0.35 \text{ kg/hour}$

Controlled; $E_2 = (0.35 \text{ kg/km}) \times (0.50 \text{ km/1 trip}) \times (1 \text{ trip/1 hour}) = 0.175 \text{ kg/hour}$

Dust Emission Mass Flow Rate to be Formed During the Storage of Vegetal Soil (Area Where Soil Will Be Stored: 0.02 ha)

Uncontrolled; $E_3 = (5.8 \text{ kg/ha-day}) \times (0.02 \text{ ha} / 1 \text{ days}(24 \text{ hours})) = 0.0048 \text{ kg/hour}$

Controlled; $E_3 = (2.9 \text{ kg/ha-day}) \times (0.02 \text{ ha} / 1 \text{ days}(24 \text{ hours})) = 0.0024 \text{ kg/hour}$

Accordingly, the total mass flow rate of dust emission to be formed from the stripping operations of the vegetal soil to be carried out;

Uncontrolled; $ETOTAL-1 = 0.045 \text{ kg/h} + 0.35 \text{ kg/h} + 0.0048 \text{ kg/h} \approx 0.399 \text{ kg/h}$

Controlled; $ETOTAL-1 = 0.0225 \text{ kg/h} + 0.175 \text{ kg/h} + 0.0024 \text{ kg/h} \approx 0.199 \text{ kg/h}$.

Table 20. Dust Emission Amounts From Construction

	Total mass flow rate of controlled dust emission (kg/hour)	Total mass flow rate of uncontrolled dust emission (kg/hour)
Sub-Project Area	0.199	0.399

Considering that all the work to be done within the scope of lifting, loading, unloading, transportation (total round-trip distance) and storage of topsoil at the construction site will be carried out in the same time period (worst case scenario), the dust emission to be generated was calculated as 0.399 kg/hour for the uncontrolled case and 0.199 kg/hour for the controlled case.

The construction equipment and transport vehicles in question will be used at different times of the day. Therefore, the pollutant values calculated in table above are expected to be much lower in practice (See Table 20).

Emission calculation from vehicles

The provisions of the Exhaust Gas Emission Control and Gasoline and Diesel Quality Regulation, which was published in the Official Gazette dated 30.11.2013 and numbered 28837 and entered into force, and the Exhaust Gas Emission Control Regulation, which was published in the Official Gazette dated 11.03.2017 and numbered 30004, shall be complied with.

During construction, the fuel to be spent is only necessary for the work machines to be used, there will be no fuel consumption for heating etc. The usage periods and fuel consumptions of the work machines to be used during the construction phase of the business are shared in Table 21.

Fuel to be spent: $0.18 \cdot \text{HP} \cdot \text{Working Time} \cdot \text{Number of machines}$

Table 21.Usage periods of the work machines to be used in the facility

Machine type	Number	Power (hp/h)	Working Time (h)
Crane	1	250	1
Excavator	1	300	1
Truck	1	112	1
Pile Driving Machine	1	112	1

Diesel oil will be used as fuel for the work machines to be used in the facility. The properties of the diesel oil are given in Table 22

Table 22.Diesel Properties

Properties	Diesel	Properties	Diesel
Consistency	Very fluid	Carbon Wastes (%)	Trace
Type	Distilled	Sulfur (%)	0.4-0.7
Color	Amber	Oxygen-Nitrogen (%)	0.2
Density (150c-gr/cm ³)	0.8654	Hydrojen (%)	12.7
Viscosity (380 °C)	2.68	Carbon (%)	86.4
Pour Point (0°C)	-18	Water and Sediment (%)	Trace
Atomization Temperature (0°C)	Atmospheric	Ash (%)	Trace
Pumping Temperature (0°C)	Atmospheric	Heat Value	9.387

Fuel to be spent:

$$(250 \cdot 1 \cdot 0,18 \cdot 1) + (300 \cdot 1 \cdot 0,18 \cdot 1) + (112 \cdot 1 \cdot 0,18 \cdot 1) + (112 \cdot 1 \cdot 0,18 \cdot 1) = 139,3 \text{ L/h}$$

Assuming that all construction machines work at the same time during the construction phase of the project, the amount of fuel required for construction machines is 139,3 lt/hour in total. Unit values of exhaust emissions from vehicles are given below.

Table 23. Pollution Emission Factors from Diesel Vehicles (gr/lt)

Pollutant	Diesel (gr/L)
CO	9.7
HCS	29
NOx	36
Sox	6.5
Dust	18

Table 24. Pollutant Values to be Originated from Construction Machinery

CO	$9.70 \text{ gr/L} * 139,3 \text{ L/h} * 1\text{kg} / 1000\text{gr} = 1.35 \text{ kg/h}$
HCS	$29.0 \text{ gr/L} * 139,3 \text{ L/h} * 1\text{kg} / 1000\text{gr} = 4.02 \text{ kg/h}$
NOx	$36.0 \text{ gr/L} * 139,3 \text{ L/h} * 1\text{kg} / 1000\text{gr} = 5.0 \text{ kg/h}$
SOx	$6.5 \text{ gr/L} * 139,3 \text{ L/h} * 1\text{kg} / 1000\text{gr} = 0.9 \text{ kg/h}$
Dust	$18.0 \text{ gr/L} * 139,3 \text{ L/h} * 1\text{kg} / 1000\text{gr} = 2.5 \text{ kg/h}$

Table 25. Regulation on the Control of Industrial Air Pollution Limit Values

Emissions	Mass flow rates (kg/h) for normal operating conditions and weekly working hours	
	From the chimney	From places other than the chimney
Dust	10	1
Hydrogen chloride and gaseous inorganic chloride compounds	20	2
CO	500	50
SO ₂	60	6
NOx (as NO ₂)	40	4

The calculations above were made assuming that the construction equipment will operate simultaneously.

However, the construction machines and transportation vehicles in question will be used at different times during the day. For this reason, it is expected that the pollutant values calculated in the above table will actually be much lower. Since the mass flow rates for normal working conditions and weekly working hours are below the limits specified in Annex-2 of the Industrial Air Pollution Control Regulation published in the Official Gazette dated 03.07.2009 and numbered 27277, it will not adversely affect the existing air quality. The provisions of Exhaust Gas Emission Control Regulation, which entered into force through publication in the Official Gazette dated 11.03.2017 and numbered 30004, will be complied with.

4.2.1.4 Noise and Vibration

In the planning of all units and units of the facility, the provisions of the "Regulation on Assessment and Management of Environmental Noise", which was published in the Official Gazette dated 04.06.2010 and numbered 27601 and entered into force, and the "Regulation on Assessment and Management of Environmental Noise", which was published in the Official Gazette dated 08/11/2015 and numbered 29536, will be complied with.

Noise will be generated from the work machines that will operate during the implementation of the project activities. The impact values of the noise level produced according to the distances have been calculated and are given in the Table 28. Considering the nearest settlement, Camikebir neighborhood, which is 2,8 km away, the noise values produced are below the limit values given in tables (Table 29 and Table 30).

1 excavator, 1 truck, 1 tractor, 1 bulldozer work machine will be used during the construction phase. The engine powers of these work machines are given in the table Table 27.

Table 26.Engine powers of construction machines

NOISE SOURCES	Engine Power(W)
Diesel bulldozer	337000
Diesel excavator	129000
Tractor	218000
Truck (Loader)	327000
TOTAL	1011000

Reference Power : $W_o = 10^{(-12)}$ Watt

Conversion Factor : $*F = 1 \times 10^{(-8)}$

Equipment Power (Watt) : W_m

Sound Power (Watt) : W

"Taken from the book named 'Industrial Noise Control' by Prof. Dr. H.Nevzat Özgüven of Middle East Technical University Mechanical Engineering Department."

$W = W_m \times F$

$*L_w = 10 \times \log (W/W_o)$

*The formula for the relationship between engine power and sound power level is from Hamilton and Hardy's Industrial Toxicology

The sound power and sound power level found from the total power of the noise sources with the above formulas are calculated in the Table 27.

Table 27.Noise Sources and Sound Power Level

Noise Sources	Total Engine Power (W)	Sound Power (W)	Sound Power Level (dBA)
Construction Machinery	1.011.000,0	$1.011.000 \times 10^{(-8)} = 0,0101100$	100,0

The formula $L_p = L_w + 10 \log (Q / 4\pi r^2)$ was used. In the formula;

L_p : Sound Pressure Level (in dB)

L_w : Sound Power Level (in dB)

R : Distance to Sound Source

Q : Direction Factor (unitless) (1 is taken)

Table 28. Sound Pressure Levels of Noise Sources

Noise Sources	Distance(m)	Sound Level Pressure (dB)
Construction Machinery	10	75,03070352
	15	71,50887834
	30	65,48827842
	50	61,05130343
	100	55,03070352
	250	47,07190335
	500	41,05130343
	750	37,52947825
	1000	35,03070352
	1500	31,50887834
	2000	29,01010361
	2800	26,08754289

All construction works will need to be planned in accordance with the provisions of the Environmental Noise Control Regulation (ENCR). Environmental noise limit values for different sources presented in ENCR are given in Table 29.

Table 29. Environmental Noise Limits for Construction Sites

Source	Measured Parameter	Environmental Noise Level		
		Day	Evening	Night
Industrial facilities, transportation sources	LA5.5min	65 dB	60 dB	55 dB
Music broadcasting businesses	Lash 63-250 Hz	60 dB	55 dB	50 dB
Workplaces	LA5.5min	Background + 5 dB		Background + 3 dB
In case of more than one workplace	LA5.5min	Background + 7 dB		Background + 5 dB
All sources	LCmax	100 dB		

The permitted timeframes for construction site activities that are conducted outdoors and cause environmental noise are 10:00-22:00 in accordance with the ENCR. However, construction activities will be carried out between 10:00 am (the permitted start time for construction activities in accordance with the ENCR) and 19:00 pm (the end time of daytime in accordance with the ENCR). The noise limit values determined in the World Bank EHS Guidelines for residential, commercial, educational, industrial and receivers are given in the Table 30.

Table 30.WBG General EHS Guidelines Noise Limit Values

Recipient Type	WBG General EHS Guidance	
	Day (07.00-22.00)	Night (22.00-07.00)
Housing	55	45
Corporate, education		
Industrial	70	70
Commercial		

In addition, noise impacts should not exceed the levels given in the WBG General EHS Guidelines or result in a maximum 3 dB increase in background levels at the nearest off-site receptor location.

During the construction phase, construction equipment is likely to emit vibration during operation. In addition, if sensitive/disadvantaged groups/individuals are taken into account and their quality of life is negatively affected by vibration, the vibration impact will be limited to remain below the environmental vibration limit values specified in ENCR.

Adverse levels of noise and vibration are not expected during the operation phase of the sub-project.

4.2.1.5 Soil erosion, loss and contamination

The biggest impact on the soil may be the loss of top soil of the excavation areas of the sub-project where the excavation will be carried out. The excavated soil may be exposed to erosion agents, mainly water and wind. Due to the commissioning of heavy machinery during the construction phase, soil pollution may be observed due to accidental oil leaks in the regions. The effects on the soil will be minimal and will be localized only in the areas where construction will be carried out. In addition, mitigation measures will be implemented.

The potential impacts of the Subproject on soil environment are summarized below:

- Soil compaction as a result of topsoil stripping, levelling, excavation and filling activities, work of construction machinery,
- In the subproject, the topsoil stripping depth will generally be 20–30 cm. The stripped soil will be stored and re-laid.
- Mixing of soil layers as a result of excavation and filling activities,
- Soil contamination as a result of oil or fuel leaks or spillage that may result from incidents and unexpected events,
- Soil pollution which may occur in case of uncontrolled storage or disposal of solid and/or liquid wastes to be generated within the scope of the sub-project, and
- Erosion potential due to earthworks.

4.2.1.6 Impacts on Natural Habitats

Access road is available for the Subproject. There may be loss of shrubs and other vegetation to make way for the Sub-Project construction area. Vegetation will be cleared to allow construction works to be carried out in the area where the construction works will take place. Construction works will include clearing of bushes, stripping of topsoil, excavation and bulk haulage. These activities will also expose the land to erosion elements such as wind and water, thus triggering the process of land degradation. Impacts may occur due to spillage/leakage of chemicals and hazardous substances and inadequate waste/wastewater treatment and disposal. These aspects may result in low significance adverse impacts on ecosystem services considering the magnitude of the impact (amount of spillage, toxicity level of the spilled chemical, etc.). The impact of the Subproject activities on ecological components is related to the magnitude of the impact and the sensitivity of the receptor.

4.2.1.7 Biodiversity

In the subproject area, the vegetation is generally degraded forest vegetation, a secondary vegetation formed by the destruction of the forest area. Sparse oak communities and the main species of the steppe ecosystem that form the understory are present. The land structure and vegetation in the subproject area will undergo limited change. The subproject, planned to cause an acceptable change in the ecosystem, is not expected to cause significant damage to plant ecology or have any negative impacts. The impact is reversible thanks to mitigation measures.

There are no flora species with a protected status in the sub-project area. Dust emission may accumulate in the leaf blades, flowers, etc. organs of flora taxa, affecting both photosynthesis and respiration of the plant and causing slowdowns in the normal development process. Therefore, in order to prevent dust emission, the work area will be regularly irrigated with a water truck. After the project activities, the disturbed areas can be easily rehabilitated with plants from the natural flora of the region. For this reason, it is extremely important for the balance of the ecosystem that the natural plants of the region are preferred when selecting plants for landscaping purposes.

The works to be carried out within the scope of the sub-project will affect the fauna species. Due to this disturbance, some of these wild animals will have to move away from these areas. Individuals that move away on their own will search for suitable, similar living areas in the immediate vicinity. In this case, problems such as the carrying capacity of the sections where wild animals will be sheltered and competition with other species may arise. However, observations and examinations made in the project area have shown that the species does not have dense populations and there is no living space in the area. To prevent harm to fauna, visual inspections will be conducted during the pre-construction phase. Nesting areas will be identified and then marked to ensure that fauna will be able to move away from the area without any disturbance. Animal nests may be encountered during visual inspections during construction. Nests will be relocated to alternative sites using appropriate techniques and in a manner that will not harm them. Special attention will be paid to fauna species living near the soil surface, at burrow entrances, and in rodent burrows. These species will be encouraged to leave the area on their own or be captured using appropriate trapping techniques and relocated from the study area to more suitable locations. This will prevent any problems from occurring in the new habitats. Support will be sought from the Directorate of Agriculture and Forestry regarding the transfer of animals to alternative sites. Personnel assigned to this task will receive the necessary training on animal transport.

During construction, the following measures will be implemented to protect fauna:

- Protective corridors will be established to relocate animals or ensure their safe movement.
- Natural habitats, especially for rare species, will be preserved as much as possible. This may include leaving certain areas intact during construction.
- Excavation and land disturbance required for the facility's construction will be minimized.

In the subproject, the topsoil stripping depth will generally be 20–30 cm. The stripped soil will be stored and re-laid. After construction is completed, the stored topsoil will be placed in areas intended for landscaping or greening on the site.

- Soil and vegetation disturbance will be minimized to avoid harming local species and ecosystems.
- Noise pollution and vibrations, which can negatively impact both plant and animal life, will be limited.
- Biodegradable or environmentally friendly materials will be used whenever possible during construction.

4.2.1.8 Impacts Associated with water, energy and raw material utilisation

There are no water sources or streams in the subproject area or its immediate surroundings. Water pollution is not expected during the construction and operation phases. Water needs for workers will be met with bottled water. Water for dust removal will be provided by municipal water tankers. Wastewater will be transferred to a leak-proof septic tank. Rainwater drainage will be installed to prevent water accumulation in the subproject area.

Energy needs will be met by TEDAŞ during the construction phase. Site subscriptions will be established, and energy will be supplied from TEDAŞ's public grid. Site lighting, SCADA, and other on-site structures will be powered from this network.

There are no surface water bodies within and in the immediate vicinity of the subproject impact area that will be adversely affected by project activities. Considering the distance to Boğan stream and other water bodies within 700 meters of the subproject and the mitigation measures to be taken, impacts will be reduced or eliminated.

In the drilling works carried out in the sub-project area, groundwater was encountered between 3.00 m and 9.00 m. Changes in the groundwater level may be observed depending on seasonal conditions.

4.2.1.9 Impacts associated with Asbestos Containing Materials

During construction works encounter of asbestos containing materials might happen which may cause potential impacts due to inhalation from asbestos containing material (lung disease, mesothelioma).

4.2.2 Social Impacts and Risks

4.2.2.1 Occupational Health and Safety and Labor

Construction works may cause accidents and incidents that threaten the health and safety of workers if the necessary measures are not taken in advance.

Personnel working during the construction phase may be affected by OHS risks such as noise, vibration, dust exposure, hazards that could cause eye damage (welding/hot processes), exposure to hazardous chemicals, electric shock, working at heights, falls from heights, traffic accidents, accidents caused by machinery and moving equipment, unintentional collapses, slips and trips, and failure to use personal protective equipment. These risks are presented in this section. OHS risks and their impacts will be managed and mitigated through an OHS Management Plan and Risk Assessment (including Emergency Plans) prepared by the Contractor before the start of construction activities for the construction phase.

The spread of infectious diseases among workers is another potential negative impact on OHS. This impact can also increase the pressure on healthcare services due to overcrowding. Fire risks and worker injuries from various electrical faults are also possible (electric sparks, short circuits, electric shocks due to grounding faults, etc.).

Ümraniye Municipality and the contractor are required to provide safe and healthy working conditions.

4.2.2.2 Community Health and Safety

Impacts that may pose risks to public health, safety and security, mainly during the construction phase, are assessed under the following headings for the subproject:

- Noise,
- Dust,
- Traffic accidents (traffic safety),
- Electrical and machinery/equipment safety,
- Unwanted dent,
- Infectious diseases, for example, COVID-19 and its variants,
- Gender-Based Violence, including Sexual Exploitation, Abuse and Harassment (SEAH).

4.2.2.3 Labor and Working Conditions

There will be employees directly employed by the Sub-Borrower (payroll personnel), employees likely to be employed through third parties for a significant period of time to perform the sub-project's essential business processes (contract personnel), and employees employed by the sub-borrower's primary suppliers (supply chain personnel). Employees have rights under national labor and employment law and applicable collective bargaining agreements, including working hours, wages, overtime, compensation, and fringe benefits at the beginning of the employment relationship and upon any significant changes.

In the event that accommodation services are provided to employees, although not anticipated, the sub-borrower will establish and implement policies regarding the quality and management of accommodation and the provision of essential services.

The potential adverse effects of sub-project activities on employees in terms of working conditions and labor management are as follows:

- Unequal opportunity and unfair treatment adversely affect non-discriminatory and equal opportunity conditions such as recruitment and induction, compensation (including salaries and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.
- There may be a risk of employing migrant workers who are not employed on substantially equal terms and conditions with non-migrant workers performing similar work.

As all employees employed within the scope of the sub-project will be provided from the local workforce, no labor migration or labor influx are foreseen.

4.2.2.4 Facility Security

During the construction phase of the sub-project, there is a potential risk of damage to construction equipment, theft and sabotag.

4.2.2.5 Traffic

Traffic congestion and temporary interruptions from construction phases of the investments and which could potentially cause annoyance, disruption, health and safety impacts, as well as economic impacts. The use of construction vehicles and machineries in Sub-project site may cause traffic reducing movement and flow of vehicles. This is likely to cause increased frequency and severity of accidents.

Traffic density is not expected to occur on the Maden-Diyarbakır highway, which is the access road to the Project site, due to the transportation of PV panels and other equipment during the construction phase. Access to the SPP site will be provided from Ordu Küme Evler street and Sivrik Kullan Bahçeleri Küme Evleri cadastral road. The road in question is a stabilised dirt road. The road is a smooth road suitable for the passage of panel loaded trucks and construction equipment. This road reaches the SPP site. The road leads to Çayköy and Topalan villages. The road is used by households in these villages for transport purposes. Access roads will be opened within the SPP area. This road is shown in Figure 3.

4.2.2.6 Vulnerable and/or Disadvantaged Groups/Individuals

Certain vulnerable/disadvantaged groups/individuals may be affected during the construction phase, such as persons with disabilities, children or elderly, low-income, vulnerable or unemployed groups/individuals.

The subproject-specific ESMP, together with the SEP, will take into account any impacts related to the daily lifestyles of vulnerable/disadvantaged groups/individuals that may occur due to construction activities.

4.2.2.7 Cultural Heritage

In the event that any archaeological remains, artifacts, or other items of cultural significance are discovered during excavation or construction activities, contractor will suspend work at the discovery site and promptly inform the Project Implementation Unit (PIU) and İLBANK. Construction at the affected area will not resume until all requirements of Turkish legislation and World Bank's Environmental and Social Standard 8 (ESS8) have been fulfilled. In this context, the project-specific Chance Finds Procedure will be implemented(See Annex H).

4.3 Operation Phase

4.3.1 Environmental Impacts and Risks

Impacts related to noise, dust and exhaust emissions are not expected during operation phase of the sub-project. Impacts related to water consumption, waste and wastewater generation are detailed below sections.

4.3.1.1 Waste

Domestic Solid Waste

Assuming that the amount of domestic solid waste generated by personnel during the construction and operation phase of the project is 1.03 kg/day per person (average waste amount per person (kg/person-day), (TurkStat, 2023);

A total of 5 personnel will work during the sub-project operation phase. Accordingly, the amount of waste to be generated daily is;

$$5 \text{ person} * 1.03 \text{ kg/day} = 5,15 \text{ kg/day}$$

Domestic solid waste will be collected in closed and leak-proof garbage bins that will not emit odor. Domestic solid waste will be transported to the wild storage center by the municipality on a daily basis. During the activity; The provisions of the "Waste Management Regulation" and its amendments, which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314, will be complied with.

Packaging Waste

It has been accepted that approximately 13.5% of recyclable packaging waste will be generated among domestic solid waste (TurkStat, 2023). Any packaging waste that may be generated will be collected separately from solid waste and will be recycled by giving it to packaging waste collection-sorting facilities that have an environmental license.

When the rate given above is compared to the daily waste amount;

$$5,15 \text{ kg} * 0.135 = 0.69 \text{ kg/day(Packaging Waste)}$$

The "Packaging Waste Control Regulation", which entered into force upon publication in the Official Gazette dated 21.06.2021 and numbered 31523, and the "Zero Waste Regulation" and its amendments, which entered into force upon publication in the Official Gazette dated 12.07.2019 and numbered 30829, and the relevant provisions will be complied with.

Hazardous Waste

There will be waste that will be released as a result of the end of life of the equipment to be used in the facility. Panels will experience a loss of efficiency during the 25-year material life. According to the catalogue data, there will be an efficiency loss of approximately 20% at the end of 25 years. Therefore, replacement will be in question. In cases where the panels have reached the end of their life or need to be replaced, the old panels will be revised and new panels will be positioned. The panels are classified as hazardous waste. Accordingly, the dismantled panels will be sent to licensed hazardous waste disposal facilities. Inverters and fuses are classified as electronic goods and their economic life is over 20 years. Inverters that will be released as a result of replacing the inverters due to any malfunction or the end of their economic life will be sent to licensed companies and recycled of under the code 16 02 04.

The life of the support systems where the panels will be placed is at least 40 years. The support systems that will be exposed are within the scope of non-hazardous waste and will be disposed of by sending them to licensed companies with the code 20 01 40 (Metals). The cables to be used will be selected to be resistant to sun and heat and will have a minimum life of 20 years. The cables that will be exposed will be sent to licensed companies with the code 17 04 11 (cables other than 17 04 10) and disposed of.

Waste Batteries and Waste Batteries

Waste batteries that may be removed from vehicles in the project area will be returned to the vendors and replaced with new batteries. Batteries used in the field will be reused by ensuring that they are rechargeable. Used batteries will be collected in battery collection boxes and left at collection points belonging to TAP (Portable Battery Manufacturers and Importers Association). The "Regulation on the Control of Waste Batteries and Accumulators" and its relevant provisions, which came into force after being published in the Official Gazette dated 31.08.2004 and numbered 25569, will be complied with.

Medical Waste

During the operation phase, medical waste is not expected to be generated in the project area since in case of any accident, the health institution in Maden will be visited. If it occurs, the relevant provisions of the 'Regulation on Control of Medical Wastes', which entered into force after being published in the Official Gazette dated 25.01.2017 and numbered 29959, will be complied with.

4.3.1.2 Noise and Vibration

Catalogue noise levels of electrical devices (transformers, inverters etc.) to be used during the operation phase are below the 55 dB limit value. The noise levels of the equipment to be used during the preparation of the land within the scope of the sub-project will be in accordance with the provisions of the "Regulation on Environmental Noise Emission from Equipment Used in Open Areas" prepared by the Ministry of Industry and Trade and published in the Official Gazette dated 30.12.2006 and numbered 26392 and entered into force, and the WBG Noise Level Guide Limit Values.

4.3.1.3 Biodiversity

No adverse impacts on vegetation, flora and fauna are expected during the operation phase.

4.3.1.4 Water Supply and Wastewater Management

It is anticipated that a total of 5 people will work. Since the daily amount of drinking and utility water to be used per person is 327 L/person-day, the total amount of water to be used will be (TurkStat, 2022);

Personnel water usage amount = (Water usage amount per person) x (number of personnel)

Personnel water usage amount = (327 L/person-day) x (5 people)

≈ 1,635 L/day.

Within the scope of the project, the Regulation on Waters for Human Consumption, which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730, and the "Regulation on Waters for Human Consumption" published in the Official Gazette dated 31.07.2009 and numbered 27305, will be complied with.

According to TurkStat, 2022 data, the amount of wastewater per person is calculated as 197 L/day. During the operation phase, 5 people will work at the facility. Daily wastewater amount:

197L/day-person*5 person= 985 L/day

A septic tank will be constructed during the operation period within the scope of the sub-project.

To minimize efficiency losses in the solar power plant, it is essential to clean the solar panels periodically. Although the frequency of cleaning the panels varies depending on the dust and dirt status of the plant, cleaning the panels twice a year will be sufficient on average. The solar panels will be cleaned with deionized water.

Panel washing and cleaning will be carried out twice a year in the facility during the operation phase of the sub-project. The municipality will carry out this process through service procurement. Deionized water will be used for cleaning, approximately 12 lt deionized water will be used for 1 MW. Since the cleaning water will evaporate on the panel surface, no wastewater will be generated. As a result, the operation phase effects of the sub-project are not expected to have a negative impact on water resources.

Groundwater levels between 3.00 m and 9.00 m were observed in the drilling works carried out in the sub-project area. Changes in groundwater level may be observed depending on seasonal conditions. No negative impacts on groundwater resources are expected during the operation phase.

4.3.1.5 Impacts associated with water, energy and raw materials use

During the operational phase, the panels will be cleaned with deionized, pure water. While the cleaning process varies depending on the contamination level of the panels, an average of 12 tons of water will be used per MW. The municipality will supply the panel cleaning water by water tanker. Wastewater will be generated during the panel washing process, which will evaporate. Using chemicals to clean solar panels can scratch the panel and reduce its ability to absorb sunlight, significantly reducing its efficiency. Therefore, chemicals will not be used during cleaning..

4.3.2 Social Impacts and Risks

4.3.2.1 Occupational Health and Safety and Labor

Personnel working during the operation phase may be affected by OHS risks such as hazards that cause eye damage (welding/hot processes), exposure to hazardous chemicals (panel components), exposure to electric current, falling from heights, traffic accidents, and accidents caused by machinery and moving equipment.

4.3.2.2 Community Health and Safety

Risks and related potential impacts during the operation phase of the subproject are as follows:

- Electrical and machinery/equipment safety,
- Exposure to Project-related emergencies (fire, etc.) and/or hazardous materials.

4.3.2.3 Labor and Working Conditions

There will be employees (payroll staff) who will be directly employed by the Sub-Borrower. The staff have rights under national labour and employment law and applicable collective agreements, including working hours, wages, overtime, compensation and fringe benefits, at the commencement of the employment relationship and when any material changes occur.

In the sub-project, two (2) electrical technicians will work during the operation phase. In addition, 2 security guards and 1 cleaning staff will be employed. Ümraniye Municipality will hire cleaning services twice a year for cleaning and maintenance of SPP panels.

The staff to be recruited will be primarily from the Camikebir neighbourhood and then from the Maden district

The Sub-borrower will establish and implement policies on the quality and management of labour conditions and the provision of basic services.

4.3.2.4 Facility Security

During the operation phase of the sub-project, risks of theft, damage to panels and other equipment, and sabotage are possible.

4.3.2.5 Traffic

No negative impact or risk is expected in terms of transportation or traffic during the operation phase.

4.3.2.6 Vulnerable and Disadvantaged Groups/Individuals

During the operation phase, 'vulnerable or disadvantaged' persons/groups living in Camikebir neighbourhood will not be adversely affected due to subproject impacts.

4.3.2.7 Cultural Heritage

There will be no excavation works during the operation phase. Therefore, cultural assets are unlikely to be encountered. However, in the event that cultural assets are encountered, an Change Finds Procedure is in place (See Annex H). Existing procedures and rules will be complied with immediately.

4.4 Pre-Construction ESMP Matrix

Table 31. Pre-Construction Phase Environmental and Social Management Plan Matrix

Ref	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsibility for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
Labor and Working Conditions					
1.	Working Conditions	Construction Workers	• A Labor Management Plan will be prepared for workers before construction. • Recruitment procedures will be carried out in accordance with national laws and ESS2. • Before construction, workers will be given clear and understandable information about national labor law, collective agreements, working hours, wages, overtime, compensation and rights. • A comprehensive risk assessment document will be prepared before construction addressing sub-project specific risks and identifying mitigation measures. • Necessary OHS training covering risks will be provided to all workers, including contractors, before construction. • All Sub-project management plans, including the Occupational Health and Safety Management Plan and the Emergency Preparedness and Response Plan, will be prepared.	• The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. • The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• Labor Management Plan (LMP) • Occupational Health and Safety (OHS) Management Plan

Ref	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsibility for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• All workers will be trained on discrimination and codes of conduct before construction. The training provided to workers will be explanatory on the concepts of GBV and SEA/SH. Training will be provided to prevent discrimination in the workplace. • Pre-construction will ensure that workers learn about the grievance mechanism and the steps to follow when exercising their legal rights. • Information will be provided on minimum legal labor standards (prevention of child/forced labor, non-discrimination, working hours, minimum wages) in accordance with International Labor Organization (ILO) regulations and the employment of child laborers under the age of 18 will be prevented.		
2.	Impacts on Local Economy, Livelihoods and Employment	Camikebir Neighborhood Residents Communities	• Before the start of construction activities, stakeholders will be informed about construction activities, potential impacts , mitigation measures and GM. • Under the Subproject, local employment in unskilled, semi-skilled and skilled jobs will be prioritized as much as possible.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Grievance Mechanism Procedure • Stakeholder Engagement Plan (SEP)

Ref	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsibility for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• SEP will be implemented to ensure engagement with communities and operationalize the grievance mechanism.		
3.	Inadequate Information Sharing	Camikebir Neighborhood Residents Communities	• Prior to the commencement of construction activities stakeholders are provided with activities, potential impacts and mitigation measures. • ESMP and SEP will be published on the website of Ümraniye Municipality.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Grievance Mechanism Procedure • Stakeholder Engagement Plan (SEP)
4.	Missing Documentation	Communities	• All sub-management plans will be prepared by the contractor and checked and inspected by the supervision consultant	• The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. • The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• Contractor's E&S Management Plan • Air Quality Management Plan • Noise Management Plan • Biodiversity Management Plan • Traffic Management Plan • Labor Management Plan • Emergency Preparedness and Response Plan • Fire Extinguishing Plan • OHS Management Plan • Grievance Mechanism Procedure • Spill and Leak Response Procedures • Hazardous Material Management Plan • Waste Management Plan • Water Management Plan

4.5 Construction ESMP Matrix

Table 32. Construction Phase Environmental and Social Management Plan Matrix

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS2- Labor and Working Conditions					
1.	Improper Working Conditions,	Construction Workers	- Recruitment procedures will be conducted in accordance with national laws and ESS2. - A comprehensive risk assessment document will be prepared addressing subproject specific risks and identifying mitigation measures. - All employees, including subcontractors, will be provided with the necessary OHS trainings covering the risks. - All Subproject management plans including Occupational Health and Safety Management Plan and Emergency Preparedness and Response Plan will be prepared. - A LMP will be prepared and implemented for and management of construction workers. - Employees will be provided with clear and understandable documented information on their rights under national labor law, collective bargaining agreements, working hours, wages, overtime, compensation and benefits. Will be notified at the beginning of the relationship and when any material change occurs.	- The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. - The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	- Labor Management Plan - OHS Management Plan - Grievance Mechanism Procedure - Safe work procedures

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• LMP will be implemented throughout the construction phase of the sub project. • Workers will be allowed to have access to the GM and will be required to be aware about this Mechanism. • Starting from pre-construction and throughout the construction period, all workers will be given training on discrimination and codes of conduct. The trainings given to the employees will be explanatory about the concepts of GBV and SEA/SH. At the same time through the trainings, it will be ensured that workers learn the GM of the Project (explained in detail in the Project's SEP document) and the steps to be followed in exercising their legal rights. Access to the GM will be easy and effective. The GM officer designated for the Project will be announced to all employees during the trainings to be given before starting work. There will be brochures and posters containing the GM and the contact information of the authorized person in places such as the cafeteria, canteen and service areas used by the employees. • Minimum legal labour standards will be met (preventing child/forced labour, anti-discrimination, working hours, minimum wages) as per International Labour		

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			Organization (ILO) regulations. • The work permits of the employees will be controlled within the scope of the sub-project, prohibiting, forced labour, and child labour under the age of 18. • Employees will be trained to prevent discrimination in the workplace. • Necessary measures will be taken by contractor to make sure that workers coming from outside the city will be given a training program on dialogue and communication with local communities, and that there are no social or cultural issues between host communities and external workers. It is the Consultant's responsibility to ensure that the contractor complies with the determined criteria. • Workers will be provided hygienic and adequate facilities. • Workers will be allowed to have access to primary healthcare on site, enabling the provision of prescriptions. • Discrimination based on language, race, gender, political thought, philosophical belief, and religion will be avoided in business relations.		

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
2.	General OHS Risks	Construction Workers	• A comprehensive risk assessment document will be prepared addressing Subproject specific risks and identifying mitigation measures. • All employees, including subcontractors, will be provided with the necessary OHS trainings covering the risks. • Safety plan will be followed and appropriate Personal Protective Equipment (PPE) will be used when working at height • OHS Trainings will cover include findings of the risk assessment study. • In the event of an OHS accident resulting in loss of life, loss of limbs or eyes, or temporary disability, the Contractor shall immediately (within 24 hours) notify ILBANK PIU and follow up the situation by completing ESIRT forms in accordance with ILBANK's instructions. This process will also include root cause analysis and corrective action plan.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • A Labor Management Plan • Emergency Preparedness and Response Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
3.	Facility Security	Construction Workers	• The facility will employ 2 security personnel. • It will provide continuous pedestrian security patrols around the facility. • The entrances and exits to the facility will be kept under control by security personnel. • It will provide training to security personnel to be prepared for all risks that may occur in the facility. • It will ensure that the personnel correctly analyzes the concepts of suspicious vehicles, people and packages. • The facility will be surrounded by wire mesh. • The facility's surroundings and roads will be illuminated with lighting poles.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities.	• OHS Management Plan • Emergency Preparedness and Response Plan
4.	Lifting Operations OHS Risks	Construction Workers	• The lifting area will be fenced off to prevent access to the lifting area during lifting operations. • Warning signs will be placed for lifting activities. • Occupational Health and Safety Management Plan • will be implemented for lifting operations. • The lifting operations will be carried out by a well-trained, qualified and certified lifting team, accompanied by appropriate means of communication and a flagman. • Employees will be provided with	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• A Labor Management Plan • OHS Management Plan • Emergency Preparedness and Response Plan • Safety procedures

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			all necessary PPE and safety equipment.		
5.	Work Accidents and Electric Shock	Construction Workers	- During the installation of electrical equipment, the relevant safety procedure shall be followed to prevent the risk of injury to workers from electric shock. - Lock Out Tag Out Procedure" will be prepared and implemented. -Ensure that all electrical cords, cables, and hand power tools are checked for frayed or exposed cords. Also, ensure that the manufacturer's recommendations for the maximum permitted operating voltage of portable hand tools are followed -Ensure that all electrical equipment used in environments that are or may be wet is double insulated/grounded; use equipment with ground fault interrupter (GFI) protected circuits. -Ensure that power cords and extension cords are protected against damage from traffic by shielding or suspending above traffic areas -Ensure that high-voltage equipment ('electrical hazard') and service rooms where access is controlled or prohibited are properly labeled. -Ensure that "No Approach" zones are established around or under high voltage lines. -Ensure that construction vehicles or other vehicles with rubber tires	- The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. - The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	- A Labor Management Plan - OHS Management Plan - Emergency Preparedness and Response Plan - Lock Out Tag Out Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			that come into direct contact with or arc across high-voltage cables are taken out of service for 48 hours. • A safety strip will be drawn around the electrical areas and a safe working area will be provided. • Contractor electricians will be ensured Only certified electricians who is able to document his/her competency this particular field of vocational training will be allowed to work and provided with appropriate insulated PPE and work tools, as well as knowledge of the risk of electric shock and protection techniques. • Work will be avoided in wet weather conditions. • Warning signs will be placed in areas with electrical hazards and all safety precautions will be implemented to prevent workers from being exposed to these areas.		
6.	Fire Safety Precautions and Emergency Response Plan	Construction Workers	• Employees will be trained on their responsibilities to report hazards. • Ignition sources will be kept under control. • It will be ensured that a fire extinguishing system is available. • Employees will receive comprehensive training on fire-fighting measures. • Fire drills will be conducted regularly.	• The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. • The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• A Labor Management Plan • OHS Management Plan • Emergency Preparedness and Response Plan • Fire Extinguishing Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
7.	Rotating and Moving Equipment	Construction Workers	• If a machine or equipment has an exposed moving part or an exposed pinch point that could endanger the safety of any worker, ensure that the machine or equipment is equipped with and protected by a guard or other device that prevents access to the moving part or pinch point. Guards should be designed and installed in conformance with appropriate machine safety standards. • Ensure that machinery with exposed or protected moving parts or in which energy can be stored (e.g. compressed air, electrical components) is turned-off, disconnected, isolated and de-energized (Locked Out and Tagged Out) during service or maintenance. • Where possible, ensure that equipment is designed and installed to enable routine servicing, such as lubrication, to be carried out without removing guarding devices or mechanisms	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• A Labor Management Plan • OHS Management Plan • Emergency Preparedness and Response Plan
8.	Industrial Vehicle Driving and Site Traffic	Construction Workers	• Ensure that industrial vehicle operators are trained and certified in the safe use of specialized vehicles such as forklifts, including safe loading/unloading, load limits • Make sure drivers undergo medical supervision Ensure that mobile equipment with restricted rear visibility is equipped with audible reverse	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • Emergency Preparedness and Response Plan • Labor Management Plan • Traffic Management Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			alarms and that large vehicles are manoeuvred by signallers and flaggers. Ensure that rights of way, site speed limits, vehicle inspection requirements, operating rules and procedures (e.g. prohibiting operation of forklifts with forks up), and control of traffic patterns or direction are established. • Ensure that deliveries and movement of private vehicles are restricted to defined routes and areas, with 'one-way' movement preferred where appropriate • All sub-project vehicles should be fitted with GPS location/speed tracking devices.		
9.	Welding and Hot Works	Construction Workers	• Ensure that appropriate eye protection, respiratory protection against welding fumes welder's goggles and/or a full-face eye shield , is provided for all personnel involved in or assisting with welding operations. • Ensure that special hot work and fire prevention precautions and Standard Operating Procedures (SOPs) are in place, including "Hot Work Permits, stand-by fire extinguishers, stand-by fire watch and maintaining fire watch for up to one hour after welding or hot cutting is finished".	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • Emergency Preparedness and Response Plan • Fire Extinguishing Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
10.	Manual Handling	Construction Workers	• Site workers will be provided with information and training on manual handling, including healthy lifting techniques. • Implementation of safe transportation techniques will be ensured. • Space limitations will be eliminated, good organization will be ensured and improved layouts will be provided. • Manual handling operations will be kept to one level, ground conditions will be improved and environmental conditions will be enhanced. The ground will be kept clear of obstacles. • Use of appropriate PPE and safety equipment will be ensured. • The potential use of handling aids that can be used in combination with appropriate safety measures will be discussed.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • Emergency Preparedness and Response Plan
11.	Gender-Based Violence (GBV); Sexual Exploitation and Abuse/Sexual Harassment of Workers (SEA/ST); Gender Inequality	Construction Workers	• The management staff of the Construction Contractor and both Consultants will be briefed on SEA/SH. • Awareness meetings will be organized with employees. • All employees will be trained on SEA/SH. • All employees will sign and be informed of the Code of Conduct. • An Employee Grievance Mechanism will be implemented to collect grievances related to SEA/SH.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• Labor Management Plan • Grievance Mechanism Procedure • Ethical rules and Code of Conduct

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS3- Resource Efficiency and Pollution Prevention and Management					
12.	General Environmental Risks	Camikebir Neighbourhood People Flora and Fauna	- Waste Management and Hazardous Substances Management Plan will be prepared for the construction phase. - A storm water drainage system will be included in the planning and design of the Subproject site. - E&S Training Plan will be prepared.	- The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. - The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	- Waste Management Plan - Hazardous Material Management Plan - Annual Training Plan
13.	Waste Management(General)	Camikebir Neighbourhood People Flora and Fauna	- A temporary waste storage area will be established on site to store waste generated by construction site personnel. Waste will be sorted and stored according to type (e.g. household, packaging, hazardous). - Household waste will be collected in designated waste bins in accordance with the Waste Management Regulation and transported to the municipal waste collection site. - Recyclable wastes, including packaging wastes, will be collected and temporarily stored in designated areas protected from precipitation. These wastes will be processed by licensed recycling companies in line with the Packaging Waste Control Regulation.	- The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. - The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. - The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	Waste Management Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• Hazardous waste will be stored in robust, leak-proof and secure containers. These containers will be clearly labeled with the type of waste, classification, volume, Material Safety Data Sheets (MSDS) and required PPE. • Unidentified wastes will be evaluated as hazardous waste. A dedicated storage area for hazardous waste will be provided with a concrete floor and sealed measures. Licensed waste management companies will be contracted for the collection, disposal or recycling of these wastes. • Waste batteries, accumulators, tires, medical waste and personal hygiene items will be collected, stored and managed separately in accordance with relevant legislation. Waste oils, batteries and other hazardous materials will be collected according to strict guidelines to prevent environmental pollution or improper disposal. • At waste generation points, containers with lids of appropriate capacity for the frequency of collection will be installed to store non-hazardous solid waste. Lids will be used to prevent rainwater ingress and overflow. • All containers will be clearly labeled according to their contents to promote effective waste management practices.		

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• All waste will be collected, sorted, labeled and stored on site in accordance with the Waste Management Regulation. Detailed records will be kept on waste generation, disposal methods and recycling activities. • Hazardous and non-hazardous waste generation will be minimized by training employees on waste sorting, recycling procedures, spill prevention measures and compliance with legislation. • Hazardous waste containers will be regularly checked for damage or spillage, securely closed and stored in a manner that prevents chemical reactions between wastes. • Maintenance work, such as oil changes and battery replacements, will mainly be carried out off-site by qualified service providers. In cases of mandatory on-site maintenance, designated areas equipped with appropriate drainage and impermeable pavement will be used. • Oil, fuel or lubricant spills will be contained with absorbents, contaminated soil will be stripped and stored as hazardous waste. • Waste tires from vehicle maintenance will be stored in segregated areas in accordance with the Waste Tires Control Regulation.		

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
14.	Electronic Waste	Camikebir Neighbourhood People Flora and Fauna	• Recycling for the proper disposal or recycling of end-of-life equipment contracts with facilities or producers. • A recycling program for damaged panels will be implemented to recover valuable materials and reduce the amount of waste going to landfill. • Agreements will be made with e-waste recycling facilities to ensure responsible disposal of inverters, batteries and similar electronic waste.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• Waste Management Plan
15.	Wastewater Management	Camikebir Neighbourhood People Flora and Fauna	• Septic tanks will be constructed and used to collect waste water from construction site personnel. • The wastewater in the septic tank will be regularly vacuumed and drained to prevent overflow, reduce the risk of contamination and ensure proper operation of the system, and the septic tank will be regularly maintained.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Waste Management Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
16.	Soil and Groundwater Risks	Camikebir Neighbourhood People Flora and Fauna	• In case of leakage or spillage of oil, chemicals, lubricants and fuel, the spillage shall be contained and cleaned up immediately. • Kits will be kept on site to control and clean up spills, and spilled materials be disposed of properly through licensed companies. • Construction vehicles and equipment will be regularly maintained in designated off-site areas. • Refueling will take place in designated areas using strict protocols. • Waste oils will be collected and stored for recycling or disposed of through licensed dealers. • Adequate hygienic facilities, such as toilets and showers, will be provided for construction workers. In the event of any accident, leakage or spillage, necessary repairs and/or maintenance will be carried out immediately.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• Spill and Leak Response Procedures • Emergency Preparedness and Response Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
17.	During Soil Excavation or Stripping Works Dust Emissions and Risks of Gas Emissions from Vehicles and Machinery	Camikebir Neighbourhood People Construction Workers Flora and Fauna	• In case of dust formation, dust suppression will be applied by water spraying. Water to be used for dust suppression will be provided by water tankers. • Surrounding industrial facilities and residents within Aol will be informed about the timing and content of construction activities under the SEP. • Loading and unloading of trucks will be done carefully to avoid scattering and spreading of materials. • Transportation trucks entering and leaving the construction site will be covered with tarpaulin on public roads. • A speed limit will be applied for trucks. • Truck tires will be cleaned to prevent mud from being carried onto the roads. • Modern equipment and vehicles in compliance with relevant emission standards will be used during construction works. • Exhaust systems and emission levels of equipment and vehicles will be checked regularly. • Low emission construction equipment and vehicles will be used as part of good site practices, and cleaner fuels and technologies will be preferred to reduce air pollution during construction. • A GM will be implemented. • In the event of a complaint, work will be suspended until the necessary measures are taken.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • Grievance Mechanism Procedure • Air Quality Management Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
18.	Environmental Noise Risks of Transportation Vehicles, Machinery and Outdoor Equipment to be Used at the Construction Site	Camikebir Neighbourhood People Construction Workers Flora and Fauna	• Construction machinery will not be operated at night. • Surrounding industrial facilities will be informed about the timing and content of construction activities under the SEP. • The machinery and equipment used during land preparation and construction works will not be operated at the same point, but distributed homogeneously over the area. • Equipment with low noise level will be preferred for the construction machinery to be used within the scope of the Subproject. • Regular and periodic maintenance of work machines and equipment and daily maintenance of each shift will be carried out. • All vehicles used in transportation activities shall comply with the speed limits specified in the Road Traffic Regulation. • A grievance mechanism will be implemented to receive complaints of discomfort. • In the event of a complaint, work will be suspended until preventive measures are taken.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• OHS Management Plan • Noise Management Plan • Grievance Mechanism Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
19.	Hazardous Wastes	Camikebir Neighbourhood People Construction Workers Flora and Fauna	• The types, quantities and properties of hazardous substances to be stored will be documented and recorded. • An equipped and designated storage area will be established and used for the safe storage of hazardous and toxic substances. • Storage containers will be labeled with appropriate hazard warnings, safety information and emergency contact details; all chemicals will be handled, stored and disposed of in accordance with the MSDS. • Appropriate containers and sealed tanks will be used to prevent spillage, leakage or spread of hazardous substances. Secondary containment measures, e.g. embankments, dikes, dikes or containment ponds, will be implemented to capture and contain potential accidental releases. • Adequate ventilation and evacuation systems shall be provided to prevent the accumulation of hazardous vapors or gases in storage areas. • Hazardous materials such as lead-containing components in solar panels and electronic waste from inverters will be identified and safely removed. • Appropriate containment and transportation procedures will be implemented to prevent spillage or release of hazardous substances.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Hazardous Material Management Plan • Emergency Preparedness and Response Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• Coordinate with licensed facilities for proper disposal or recycling of hazardous materials.		
ESS4- Community Health and Safety					
20.	Increased Traffic Depends on Intensity Risks to Community Health and Safety that may lead to Accidents, especially on Local Roads	Camikebir Neighbourhood People	• Coordination will be ensured to plan and develop infrastructure improvements or expansions prior to the Subproject. • All vehicles used in transportation activities shall comply with the speed limits specified in the Road Traffic Regulation. • Vehicle speed will be limited to 30 km/h on unpaved roads. • Safe traffic control measures such as road warning signs, speed humps and flag staff will be used where necessary. • Any damage to the roads will be repaired. • An Emergency Preparedness and Response Plan will be prepared and necessary protocols will be established for possible infrastructure failures, accidents or natural disasters that may occur during construction. • All drivers will receive road safety training. • Working areas should be limited to prevent the entry of civilians (barriers with no gaps will be used).	• The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. • The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. • The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Traffic Management Plan • Stakeholder Engagement Plan • Grievance Mechanism Procedure • Emergency Preparedness and Response Plan

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
21.	Gender-Based Violence (GBV), Sexual Exploitation and Risks Related to Abuse/Sexual Harassment (SEA/SH)	Camikebir Neighbourhood People	• Suitable and adequate accommodation will be provided for Subproject personnel. • All employees will be trained on ethical rules and public communication in order to prevent violence harassment abuse in the workplace. • Employees will be required to sign and comply with the of conduct. • Regular awareness raising sessions will be conducted in the field on gender-based violence (GBV) prevention and other social issues. • A grievance mechanism will be in place to receive complaints on these issues.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Stakeholder Engagement Plan • Grievance Mechanism Procedure
22.	Impacts on local economy, livelihood sources and employment	Camikebir Neighbourhood People	• Local employment will be prioritized as much as possible • for unskilled, semi-skilled and skilled works within the • scope of the Sub-project. • SEP will be implemented for regularly engaging with • communities and running the grievance mechanism	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement.	• Stakeholder Engagement Plan • Grievance Mechanism Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
23.	Impacts on vulnerable and disadvantaged individuals and groups	Camikebir Neighbourhood People	• Although the subproject does not pose significant risks to vulnerable groups, additional stakeholder engagement measures will remain in place. Support will be provided in accordance with the project specific SEP, such as transportation to stakeholder engagement activities. • Specific outreach measures will be implemented for vulnerable groups in impacted communities. These measures will include community engagement sessions, collaboration with local organizations, and targeted communication strategies to ensure that these groups are aware of and can access employment opportunities. For instance, sign language interpretation will be offered for hearing-impaired individuals, brochures will be prepared in accessible formats (e.g., large print) for visually impaired individuals, and physical access to meeting venues will be ensured for wheelchair users. Furthermore, online access to engagement sessions will be made available for individuals unable to attend in person	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Stakeholder Engagement Plan • Grievance Mechanism Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS6- Biodiversity Conservation and Sustainable Management of Living Natural Resources					
24.	Negative Impacts on Biodiversity	Flora and fauna	• Prior to construction, field surveys will be conducted to determine the presence and distribution of these species in the Subproject area. In particular, nesting and sheltering areas will be identified for these species, Disturbance or destruction of these habitats will be avoided during construction activities. • Construction works will be carried out gradually, allowing sufficient time for fauna species that may be present in the area to escape or move to a suitable habitat area. • Construction works will be planned during periods of low wildlife activity, such as the nesting season of birds or the hibernation period of mammals. • Vegetation removal will be minimized through a comprehensive survey to avoid unnecessary vegetation clearing. • Following the completion of construction activities, natural vegetation will be restored and species will be reintroduced to the surrounding areas. • Exclusion fences will be installed to prevent animals from entering construction areas and wildlife-friendly fence designs will be used to provide safe passage for small animals such as hedgehogs.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities.	• ESS 6 • GIIP

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• To protect known nesting or sheltering sites, barriers will be placed around these areas during construction. These barriers may be temporary or permanent, depending on the duration of construction. • Project construction areas and access roads will be separated from other areas by appropriate warning signs, signage and fencing. Personnel and vehicle access to this area will be limited to the construction area. • Habitat destruction will be reduced by keeping vehicles on access roads only and minimizing foot traffic in undisturbed areas. • Limit noise pollution and vibrations, as they can disturb both plant and animal life. • Use biodegradable or environmentally friendly materials whenever possible during construction. • In the subproject, the topsoil stripping depth will generally be 20–30 cm. The stripped soil will be stored and re-laid. After construction is completed, the stored topsoil will be spread in areas where landscaping or greening will be performed on the site.		

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS8- Cultural Heritage					
25.	Encountering cultural heritage in topsoil stripping operations	Cultural heritage	• If any chance finds falling within the scope of Law No. 2863 is encountered during the underground applications, the work will be stopped immediately and the Trabzon Cultural Heritage Preservation Regional Board Directorate and the relevant Museum Directorate will be notified and the "Chance Find Procedure"(See Annex H) will be applied. • A Chance Find Procedure will be implemented to ensure that artifacts found incidentally during Subproject implementation are identified in a timely manner and managed appropriately. • In case of any incidental finds, construction work will be stopped immediately. The municipality, ILBANK and the relevant museum directorate will be notified. • The relevant Conservation Board or Museum Directorate will be informed immediately and the security of the site will be ensured by the Contractor. Construction works will not continue without official notification.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Chance Find Procedure • Grievance Mechanism Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS10- Stakeholder Engagement and Information Disclosure					
26.	Risks of Failure to Establish Stakeholder Engagement and Grievance Mechanism	Camikebir Neighbourhood People Workers	• Complaints may indicate increasing concerns of stakeholders and may escalate if not identified and resolved. Identification and response to complaints will ensure positive relationships are developed between project staff, local communities and other stakeholders. • Various participation programs will be implemented to ensure the participation of women and disadvantaged individuals in consultation and decision-making processes. • Adequate means of communication will be established to ensure that the voices of vulnerable groups are heard, problems are solved and complaints are listened to. • From the early stages of the project lifecycle, the complaints procedure will include individual or group meetings, and printed materials and information boards will continue to be made public. • Complaints regarding the project will be handled through a transparent and impartial process, according to the GM announced in the SEP. • The grievance will be assessed by the municipality. Affected community representatives such as local CSOs and/or muhtars will be consulted depending on the type of grievance. If necessary, the grievance will be investigated on site.	•The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. •The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. •The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Stakeholder Engagement Plan • Grievance Mechanism Procedure

Ref.	Description of impacts	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
27.	Impacts on Vulnerable and Disadvantaged Individuals and Groups	Camikebir Neighbourhood People	- Although the sub-project does not pose significant risks to vulnerable and disadvantaged groups, additional measures for their participation in stakeholder engagement activities will remain in place. Support will be provided in accordance with the sub-project specific SEP, such as transportation to stakeholder engagement activities. - Specific outreach measures will be implemented for vulnerable individuals and groups in affected communities. These measures will include stakeholder engagement sessions, collaboration with local organizations and targeted communication strategies to ensure that these individuals and groups are aware of and can access employment opportunities. For example, sign language interpretation will be available for individuals with hearing impairments. For visually impaired individuals, brochures will be prepared in accessible formats. Special transportation will be provided for wheelchair users for physical access to meeting venues. In addition, online access to participation sessions will be provided for individuals who are physically unable to attend. Free transportation will be provided for individuals with livelihood constraints.	- The Contractor is responsible for the preparation of management plans and procedures, implementation of E&S requirements, and execution of construction activities. - The Supervisory Consultant is responsible for the audit and review of E&S management documents, as well as construction monitoring and reporting activities. - The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- Grievance Mechanism Procedure - Stakeholder Engagement Plan

4.6 Operation ESMP Matrix

Table 33. Operational Phase Environmental and Social Management Plan Matrix

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS2- Labor and Working Conditions					
1.	Unsuitable Working Conditions	Employees	- On-the-job trainings will be implemented on a weekly basis to include the OHS Management Plan and Working Conditions. - Labor Management Plan will be implemented for the recruitment and management processes of all employees. - Child labor, forced labor and unregistered labor will be prohibited under the Labor Management Plan. - Employees will be provided with clear and comprehensible documented information on their rights under national labor law, such as collective agreements, working hours, wages, overtime, compensation and benefits; this information will be provided at the beginning of the employment relationship and when any significant changes occur. - Grievance Mechanism for employees will be implemented. Employees will be informed about this mechanism during recruitment and will have easy access to this mechanism.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- Labor Management Plan - Grievance Mechanism Procedure - OHS Management Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
2.	General OHS Risks	Employees	• A comprehensive risk assessment document will be prepared that addresses project specific risks and identifies mitigation measures. • All employees, including subcontractors, will receive the necessary OHS training covering the risks. • All Subproject management plans will be prepared, including Occupational Health and Safety Management Plan and Emergency Preparedness and Response Plan. Occupational Health and Safety Management Plan will be followed and PPE appropriate for working at heights will be used. • OHS Trainings will include Occupational Health and Safety Management Plan	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• OHS Management Plan • OHS Training Plan • Labor Management Plan • Emergency Preparedness and Response Plan
3.	Facility Security	Employees	• 2 security personnel will be employed at the facility. • It will provide continuous pedestrian security patrols around the facility. • The prepared emergency procedures will be explained to the personnel through drills. • It will provide training to the security personnel to be prepared for all risks that may occur at the facility. • It will ensure that the personnel correctly analyzes the concepts of suspicious vehicles, people and packages.	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• OHS Management Plan • Emergency Preparedness and Response Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			Security personnel will be given CCTV and equipment training.		
4.	Accidents and Electric Shock	Employees	- The relevant safety procedure shall be implemented to prevent the risk of injury to workers due to electric shock during the installation of electrical equipment. - Safety fences will be constructed around electrical areas and a secure storage area for chemicals will be provided. - Contractor electricians will be well trained, equipped with appropriate insulated PPE and work equipment and will be familiar with protection techniques against electric shocks. - Work will be avoided during rainy times. - Hazard signs will be placed in areas of electrical hazard and all safety precautions will be implemented to prevent exposure.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- OHS Management Plan - Emergency Preparedness and Response Plan
5.	Fire Safety Precautions and Emergency Response	Employees	- Workers will be trained on their responsibility to report hazards. - Hazardous sources with high fire potential will be kept under control. - Accessibility of the fire extinguishing system will be ensured. - Employees will be well trained in fire fighting measures. - Fire drills will be carried out regularly.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- OHS Management Plan - Emergency Preparedness and Response Plan - Fire Extinguishing Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
6.	Manual Handling	Employees	• Site workers will be provided with information and training on manual handling, including healthy lifting techniques. • Implementation of safe transportation techniques will be ensured. • Space constraints will be addressed, an organized working environment will be provided and improved layouts will be created. • Manual handling will be kept to a single level, ground conditions will be improved and environmental conditions will be enhanced. The floor will be kept clear of any obstacles. • Use of appropriate PPE and safety equipment will be ensured.	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• OHS Management Plan • Emergency Preparedness and Response Plan
7.	Gender-based violence (GBV); sexual exploitation and abuse/sexual harassment (SEA/SH) on employees; gender inequality	Employees	• Sensitization of the Managements Staff on GBV and SEA/SH issues will be provided. • Awareness Meetings will be conducted with the affected communities. • Training regarding GBV and SEA/SH will be provided to all workers. • All workers will sign and be informed about the Code of Conduct. GM will be operated to capture GBV and SEA/SH related complaints	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Labor Management Plan • Grievance mechanism Procedure

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS3- Resource Efficiency and Pollution Prevention and Management					
8.	General Environmental Risks	Camikebir Neighbourhood People Flora and fauna	- Waste Management Plan and Hazardous Material Management will be prepared and used. - E&S Training Plan will be prepared and implemented.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- Waste Management Plan - Hazardous Material Management Plan - Annual Training Plan
9.	Waste Generation (General)	Camikebir Neighbourhood People Flora and fauna	- The Temporary Waste Storage Area established during construction period will be used. - Wastes will be separated and stored according to their types (e.g. household, packaging, hazardous). - Domestic solid waste will be collected in closed and leak-proof garbage bins that will not emit odor. Domestic solid waste will be transported to the wild storage center by the municipality on a daily basis. - Recyclable waste, including packaging waste, will be collected and temporarily stored in designated areas protected from precipitation. These wastes will be managed by licensed recycling companies according to the Packaging Waste Control Regulation. - Hazardous waste will be stored in undamaged, sealed and secure containers. These containers will be clearly labeled with waste type, class, volume, MSDS and required PPE. Unidentified waste be considered hazardous. A dedicated storage area for	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	Waste Management Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			hazardous waste will be provided with a concrete floor and equipped with leak-proof measures. Licensed waste management companies will be contracted for the collection, disposal or recycling of these wastes • Waste batteries, accumulators, tires, medical waste and personal hygiene items will be collected, stored and managed separately in accordance with relevant legislation. • For the storage of non-hazardous solid wastes, containers with sufficient capacity, suitable for the frequency of collection, with lids that prevent rainwater ingress and overflow will be placed at the waste generation points. • All containers will be clearly labeled according to their contents to promote effective waste management. • All waste will be collected, sorted, labeled and stored on site in accordance with Turkish Environmental Legislation. Detailed records of waste generation, disposal methods and recycling activities will be kept. • Employees will be trained in waste management to ensure that hazardous and non-hazardous waste is minimized. • Hazardous waste containers will be regularly inspected for damage or leakage, securely		

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			closed and stored in a manner that prevents chemical reactions. • Maintenance such as oil changes and battery replacement will be carried out off-site, mainly by authorized service providers. In cases of mandatory on-site maintenance, soil contamination will be prevented by using appropriate drainage and impermeable capped areas. • Oil, fuel or lubricant spills will be contained with absorbent materials and contaminated soil will be stripped and stored as hazardous waste. • Waste tires from vehicle maintenance will be stored in segregated areas in accordance with the Waste Tires Control Regulation. • All unidentifiable wastes will be considered hazardous; labels will include details such as waste class, volume, MGBF and required PPE. Hazardous waste containers will be checked regularly and any damage or leakage will be identified. These containers will be securely closed and storage methods will be implemented to prevent chemical reactions between wastes.		

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
10.	Other Waste	Camikebir Neighbourhood People Flora and fauna	• Contracts will be made with recycling facilities or manufacturers for the proper disposal or recycling of obsolete equipment. • A recycling program for damaged panels will be implemented to recover valuable materials and reduce waste to landfill. • Agreements will be made with e-waste recycling facilities to ensure responsible disposal of electronic waste such as inverters, batteries, etc. • Hazardous waste such as lead-containing components in solar panels and electronic waste from inverters the storage conditions of the materials shall be managed by allocating a clearly marked storage area. • Lead-containing components and electronic waste shall be stored in robust and sealed containers labeled with appropriate hazard symbols and transportation instructions. • Secondary containment systems, such as dikes, embankments or containment ponds, will be used to prevent leaks and spills that could contaminate the environment. • In accordance with the relevant legislation, a special storage area with concrete floor and equipped with leak-proof measures will be allocated.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Waste Management Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
			• All waste containers will be clearly identified and labeled with accurate descriptions of the type of waste, providing the necessary information for safe handling and transfer. • Maintenance of the vehicles and machinery to be used, such as oil change and battery replacement, will be carried out by authorized service providers outside the Sub-Project area. • In cases of mandatory on-site maintenance, designated areas with appropriate drainage systems will be used and soil pollution will be prevented with impermeable covers. • Waste batteries and accumulators will be collected, stored and managed separately in accordance with the relevant legislation.		
11.	Water Use	Camikebir Neighbourhood People Flora and fauna	• Water will be used efficiently to avoid wasting water during the cleaning of the panels. • Cleaning of the solar panels will be carried out in the form of wiper cleaning with rubber blade water sprayers that use very small amounts of water and a water saving practice.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
12.	Waste Water Generation	Camikebir Neighbourhood People Flora and fauna	• Septic tanks constructed for construction period will be used to collect waste water. • The wastewater in the septic tank will be regularly vacuumed out to prevent overflow, reduce the risk of contamination and ensure proper operation of the system. The septic tank will also be regularly maintained.	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Wastewater Management Plan
13.	Soil and Groundwater Risks	Camikebir Neighbourhood People Flora and fauna	• In the event of any incident, any leakage or spillage of oil, chemicals, lubricants and fuel shall be immediately contained and cleaned up. • Spill control and cleanup kits will be available on site, spills will be properly controlled and disposed of in an appropriate area. • Vehicles and equipment will be regularly serviced at designated locations outside the construction site. • Refueling will take place in designated areas following strict protocols. • Waste oil will be collected and stored through licensed suppliers for recycling or disposal. • In case of any accident, leakage or spillage, the necessary repair and/or maintenance will be carried out immediately.	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Spill and Leak Response Procedures • Emergency Preparedness and Response Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
14.	Hazardous Wastes	Camikebir Neighbourhood People, Employees Flora and fauna	• The types, quantities and characteristics of the materials to be stored will be documented and recorded. • An equipped and designated storage area will be established for the safe storage of hazardous and toxic materials. • Storage containers will be labeled with appropriate hazard warnings, safety information and emergency contact information to ensure proper handling and identification. All chemicals will be transported, stored and disposed of according to the MSDS. • Suitable containers or sealed tanks will be used to contain hazardous substances and prevent spills, leaks or releases. To capture accidental releases and Secondary containment measures, such as embankments, dikes or protection ponds, will be implemented to control the risk of flooding. • Suitable ventilation and evacuation systems shall be provided to prevent accumulation of hazardous vapors or gases in storage areas. • Appropriate containment and transportation procedures will be implemented to prevent spillage or release of hazardous substances.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Waste Management Plan • Emergency Preparedness and Response Plan

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS4- Community Health and Safety					
15.	How Glare from Solar Panels Impacts Drivers, Pedestrians and Pose a Safety Risk to Residents	Camikebir Neighbourhood People	• Appropriate panel orientation will be ensured for road safety near the solar power plants and anti-reflective coatings will be used where necessary.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Grievance Mechanism Procedure
16.	Gender-Based Violence (GBV), Sexual Exploitation and Risks Related to Abuse/Sexual Harassment (SEA/SH)	Camikebir Neighbourhood People	• Ethical rules and codes of conduct will be provided to all employees to prevent gender-based violence, harassment, abuse, etc. in the workplace. • Employees will be required to sign and comply with the code of conduct. • Sessions will be organized to raise awareness on the prevention of GBV and other social issues. • A Grievance Mechanism will be implemented to receive complaints that may be received in this context.	•The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• Grievance Mechanism Procedure

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS6- Biodiversity Conservation and Sustainable Management of Living Natural Resources					
17.	Negative Impacts on Biodiversity	Flora and Fauna	• During the operation period, weed control will be carried out by mechanically removing grass beneath the panels (mowing, weeding). • Wildlife-friendly fencing designs will be used to prevent small mammals from entering the solar power plant areas and to ensure safe passage. • To prevent bird strikes, bird-deterrent visual materials (e.g., holographic strips, shiny objects, reflectors resembling bird eyes) will be installed around the solar power plant area. • Bird strike incidents will be monitored; if the frequency increases, additional measures (e.g., placing visual markers on the panels, new deterrent systems) will be implemented. • During operation, precautions will be taken to prevent oil, fuel, cleaning chemicals, etc., from leaking into the environment. • Hazardous waste (e.g., panels) will be sent to licensed companies. • Unnecessary lighting that may disturb animals will be avoided. • Solar power plant operating personnel will receive training on biodiversity conservation.	• The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	• ESS 6 • GIIP

Ref.	Description of Impact	Sensitive Receiver(s)	Management/Mitigation Measure	Responsible for Implementation of Mitigation Measures	Relevant Management Plan or Procedure
ESS10- Stakeholder Engagement and Information Disclosure					
18.	Insufficient Stakeholder Engagement Activities and Public Consultation	Communities	- Communities will be engaged/communicated with and appropriate timing for engagement activities will be planned. There will also be regular consultations with authorities and communities regarding project management. - The grievance will be assessed by the municipality. Affected community representatives such as local CSOs and/or muhtars will be consulted depending on the type of grievance.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- Stakeholder Engagement Plan - Grievance Mechanism Procedure
19.	Impacts on Vulnerable and Disadvantaged Individuals and Groups	Camikebir Neighbourhood People	- The recruitment policy will include non-discriminatory recruitment practices specific training programs to address the needs of vulnerable groups, and the implementation and provision of support services such as transportation or childcare to facilitate participation in the workforce. - The Corporate Social Responsibility (CSR) program will be designed and implemented to make a positive contribution in areas such as road and infrastructure improvements based on the needs of communities.	The Municipality is responsible for monitoring E&S performance and reporting to ILBANK in line with IFI standards and the terms of the sub-financing agreement	- Grievance Mechanism Procedure - Stakeholder Engagement Plan

4.7 Monitoring and Reporting

The sub-borrower will conduct internal monitoring of Subproject's E&S performance and submit Periodic Monitoring Reports to ILBANK in line with the sub-financing agreement requirements. The information to be provided as part of reporting for the respective monitoring period will include the following:

- Up-to-date information on the Subproject and progress with Subproject implementation (e.g. status of construction, Subproject timeline, etc.),
- Status of compliance with legal requirements (e.g. Subproject permitting status, status and outcomes of audits done by national authorities, fines imposed by national authorities if any, etc.)
- Details of how the requirements of the IFI standards (e.g. WB ESSs) are being met on the basis of compliance with Subproject level Environmental and Social Action Plans (ESAPs),
- Incident and accident reports and statistics,
- Current Subproject level E&S organization and capacity (including information on capacity building and training),
- Progress with Subproject level stakeholder engagement activities and management of grievances, and
- Records on E&S non-conformities identified and general status of Corrective Action Plan implementation at Subproject level (in case of non-conformities).

Key performance indicators (KPIs) of this procedure will be monitored, verified, and evaluated within the scope of the Subproject monitoring stage. The KPIs for both the construction and operation phases of the Sub-Project are given in the Table 34.

Table 34. Key Performance Indicators for Both Construction and Operation Phases of the Subproject

Monitoring Focus	KPI
Documentation	
Following ESMP Project specific plans will be developed and be in place.	Full compliance with Subproject's ESMP
Air Quality	
Air Quality incidents	Minimization and continued improvement in the number of the reported air quality related incidents.
Non-Compliance with air quality standards	Zero grievances per year
Community grievances	Minimization and continued improvement in the number of air quality related community grievances
Violation on speed limit	Minimization and continued improvement in the number of reported violations on speed limit
Noise	
Noise and Vibration incidents	Minimize and continued improvement in number of reported noise and vibration related incidents
Non-Compliance with Project standards	Zero Non-Compliance Reports (NCRs) per year
Number of noise-related community grievances	Zero grievances per year
Community grievances	Minimization and continued improvement in the number of noise related community grievances
Water / Wastewater	
Spill incident	Minimization and continued improvement in the number of the reported water quality related incidents.
Non-Compliance with Subproject standards	Zero NCRs per year
Wastewater collection system	Zero grievances per year
Groundwater levels of the community/private wells	No significant adverse impact

Monitoring Focus	KPI
Water quality analyses	Meeting set national and international water quality standards for surface and groundwater impacted and/or near the Subproject
Flood incidents	No infrastructure damage and damage to loads/humans
Wastewater and Water loss records in network	Sustainable low wastewater and water loss records
Waste	
Waste Generation	Minimization of total waste generated Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)
Waste Disposal	Increase in the ratio of recovered/reused/recycled waste to total waste generated
Soil Quality	
Spill incident	Minimization and continued improvement in the number of the reported soil quality related incidents
Non-Compliance with Subproject standards	Zero NCRs per year
Soil quality accidents	Zero accident per year
Number of soil-related community grievances	Zero grievances per year
Traffic	
Number of non-compliances against the mitigation controls identified in Traffic and Transport Management Plan	Decreasing number/ continuous improvement in number of reported non-compliances
Number of drivers found to be exceeding speed limits or driving unsafely	Zero exceedance per year
Number of road traffic accidents involving: Accidental injuries and deaths, Spillages (such as cargo or fuel), Wildlife-vehicle collisions.	Zero accidents per year
Number of traffic-related grievances	Zero grievances per year
Health, Safety and Environment	
% of scheduled HSE Inspection	
% of attendance at HSE meetings	
% of closing of NCRs	
Reporting safe observations	
Reporting unsafe observations	
Reporting near misses	
Reporting number of incidents	
Reporting number of accidents	
Reporting day-loss	
% of Toolbox attending	
% of Risk Assessment compliance	
% of Legal Requirements compliance	
Results of scheduled audits	
HSE training carried out to training matrix > 90% of all training to matrix	

Monitoring Focus	KPI
% of attendance at scheduled trainings	>90
Engagement in HSE program by individual managers and supervisors	>90
Engagement in HSE program by contractor's	>90
Labor and Working Conditions	
Number of worker grievances closed out within the target timeframe	100% compliance with labor laws and regulations Zero unresolved health and safety incidents within the target timeframe 100% availability of required PPE 90% or higher worker satisfaction rate
Community Health and Safety	
Number of communicable and non-communicable diseases and injuries.	Negative Trend/No significant increase in communicable and non-communicable disease and injury rates per 1,000 residents per annum.
Number of community health safety & security grievances from local communities as recorded in the grievance management system.	Decreasing number/ continuous improvement in number of grievances
Number of reported community health & safety incidents	Zero incidents per year
Number of reported air quality or noise incidents	Zero incidents per year
Direct and indirect threats posed by construction activities against traffic and pedestrians	Zero number of drivers found to be exceeding speed limits or driving unsafely Zero accidental injuries and deaths, Zero traffic-related grievances
Access to the Construction Site - Security Fence/ Protection Tape	Zero number of unauthorized accesses to the Subproject area
Trainings	
Training records	Trainings on ESMP and SEP documents. Providing all trainings (including GM, GBV, SEAH) to all employees. 100% of scheduled training sessions to be conducted 80% or higher participant satisfaction rate Zero participants without completion certificates if applicable
Disclosure	
Grievance Records, Disclosure meeting participant records, ESMP, SEP, GM will be disclosed at Project web site in two languages (English and Turkish).	All grievances closed-out within the target timeframe ESMP, Project specific SEP and GM will be prepared and disclosed at the Project web site
Vulnerable groups:	
Incidents, Grievances, Toolbox talks and trainings, Information/ disclosure	All grievances closed-out within the target timeframe Sufficient information provided to the VGs
Grievance mechanism	
Grievance Records, GM disclosure	All grievances closed-out within the target timeframe GM disclosure to the PAPs, stakeholders GM disclosure at Subproject web site
Cultural Heritage	
Existence of a Chance Find	Zero Grievance Records

Table 35. Construction Environmental and Social Monitoring

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference / Threshold Level (if applicable)	Responsibility for Monitoring
1	Transport	Transportation Security and Transportation Interruptions	Project site transportation route	The grievances of the population in the immediate vicinity or the participants in transportation activities , by checking warning and informative signs	Daily	- Zero vehicle accidents - Minimization and continued improvement in the number of reported violations on speed limit	-	Ümraniye Municipality Supervision Consultant Contractor
2	Facility Security	Security	Project site	Visual monitoring, Grievance Mechanism	Daily	- Zero theft - Zero sabotage	-	Ümraniye Municipality Supervision Consultant Contractor
3	Ambient air quality	Dust	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring, Grievance Mechanism	In case of complaint and during the work period Daily	- In case of a complaint, PM₁₀, M_{2.5} and settled dust will be measured. - Daily visual dust monitoring . - Minimization and continued improvement in the number of the reported air quality related incidents. - Zero grievances per year	Industrial Air Pollution Control Regulation WB ESS3	Ümraniye Municipality Supervision Consultant Contractor

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference / Threshold Level (if applicable)	Responsibility for Monitoring
		Exhaust Gas Effects	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring, Grievance Mechanism	Daily Annually	- Visual observation - CO, CO₂, HC will be measured annually - Minimization and continued improvement in the number of reported violations on speed limit	Industrial Air Pollution Control Regulation WB ESS3	Ümraniye Municipality Supervision Consultant Contractor
4	Environmental noise level	Unpleasant Noise and Vibration	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Environmental noise level measurements by accredited laboratory	Measurement in case of any noise related complaints	- Minimize and continued improvement in number of reported noise and vibration related incidents - Zero Non-Compliance Reports (NCRs) per year - Zero grievances per year - Minimization and continued improvement in the number of noise related community grievances	Environmental Noise Control Regulation WB ESS3 IFC General EHS Guideline	Ümraniye Municipality Supervision Consultant Contractor
5	Surface and groundwater quality	Fuel, oil, antifreeze, etc. spills	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring, Soil quality analysis by accredited laboratory	Daily Analysis in case of spill/leakages	- Minimization and continued improvement in the number of the reported soil quality related incidents - Zero NCRs per year - Zero accident per year - Zero grievances per year	WB ESS3	Ümraniye Municipality Supervision Consultant Contractor

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference / Threshold Level (if applicable)	Responsibility for Monitoring
6	Waste Management	Inverters , batteries etc. disposal of sourced electronic waste	Lot 10 of block 626	Visual monitoring,	Daily	Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)	Waste Management Regulation WB ESS3	Ümraniye Municipality Supervision Consultant Contractor
		Hazardous waste	Lot 10 of block 626	Visual monitoring,	Daily	Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)	Waste Management Regulation WB ESS3	Ümraniye Municipality Supervision Consultant Contractor
		Domestic Waste	Lot 10 of block 626	Visual monitoring,	Daily	- Minimization of total waste generated - Increase in the ratio of recovered/reused/recycled waste to total waste generated	Waste Management Regulation WB ESS3	Ümraniye Municipality Supervision Consultant Contractor
		Packaging Waste	Lot 10 of block 626	Visual monitoring,	Daily	- Minimization of total waste generated - Increase in the ratio of recovered/reused/recycled waste to total waste generated	WB ESS3	Ümraniye Municipality Supervision Consultant Contractor
7	Changes in ground structure and erosion as a result of excavations and debris accumulation	-	Lot 10 of block 626	Visually - Geotechnics , reviews	Before starting and during the work	Zero grievances per year		Ümraniye Municipality Supervision Consultant Contractor

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference / Threshold Level (if applicable)	Responsibility for Monitoring
8		Community Health and Safety	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Grievance Mechanism	Daily throughout the duration of the studies	• Zero incidents per year • Zero number of drivers found to be exceeding speed limits or driving unsafely • Zero accidental injuries and deaths, • Zero traffic-related grievances • Zero Number of unauthorized accesses to the sub-project area	-	Ümraniye Municipality Supervision Consultant Contractor
9	Redress of grievance	Grievance Mechanism	Areas close to the sub-project site, Camikebir Neighborhood	"Grievance Forms" to be left around the construction site will be collected by the responsible person and forwarded to Ümraniye Municipality. It will be monitored by Ümraniye Municipality through the internet website, telephone and written applications to Ümraniye Municipality. "Grievance Close Out Form" will be kept.	Daily throughout the duration of the studies	• All grievances closed-out within the target timeframe • GM disclosure to the PAPs, stakeholders • GM disclosure at Sub-project web site		Ümraniye Municipality Supervision Consultant Contractor

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference / Threshold Level (if applicable)	Responsibility for Monitoring
10	Use of protective equipment , occupational safety training and OHS measures	Worker Safety	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring,	Daily	Zero work accidents	-	Ümraniye Municipality Supervision Consultant Contractor

Table 36.Operation Environmental and Social Monitoring

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
1	Transport	Transportation Security and Transportation Interruptions	Project site transportation route	The grievances of the population in the immediate vicinity or the participants in transportation activities , by checking warning and informative signs	Daily	- Zero vehicle accidents - Minimization and continued improvement in the number of reported violations on speed limit	-	Ümraniye Municipality,
2	Facility Security	Security	Project site	Visual monitoring, Grievance Mechanism	Daily	- Zero theft - Zero sabotage	-	Ümraniye Municipality
3	Ambient air quality	Dust	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Measurement by accredited laboratory Grievance Mechanism	In case of complaint and during the work period	- In case of a complaint, PM₁₀, M_{2.5} and settled dust will be measured. - Minimization and continued improvement in the number of the reported air quality related incidents. - Zero grievances per year	Industrial Air Pollution Control Regulation WB ESS3	Ümraniye Municipality

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
		Exhaust Gas Effects	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Measurement by accredited laboratory Grievance Mechanism	In case of complaint and during the work period	- CO, CO₂, HC will be measured - Minimization and continued improvement in the number of reported violations on speed limit	Industrial Air Pollution Control Regulation WB ESS3	Ümraniye Municipality
4	Environmental noise level	Unpleasant Noise and Vibration	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Environmental noise measurement by accredited laboratory	In case of complaint and during the work period	- Minimize and continued improvement in number of reported noise and vibration related incidents - Zero Non-Compliance Reports (NCRs) per year - Zero grievances per year - Minimization and continued improvement in the number of noise related community grievances	Environmental Noise Control Regulation	Ümraniye Municipality
5	Water Quality	Fuel, oil, antifreeze, etc. spills	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring, Soil quality analysis by accredited laboratory in case of spill/leakages	Daily Analysis in case of spills/leakages	- Minimization and continued improvement in the number of the reported soil quality related incidents - Zero NCRs per year - Zero accident per year - Zero grievances per year	-	Ümraniye Municipality

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
6	Waste Management	Inverters , batteries etc. disposal of sourced electronic waste	Lot 10 of block 626	Visual monitoring,	Daily	Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)	Waste Management Regulation WB ESS3	Ümraniye Municipality
		Hazardous waste	Lot 10 of block 626	Visual monitoring,	Daily	Decrease in the ratio of hazardous waste generated to total waste (by contamination + by generation)	Waste Management Regulation WB ESS3	Ümraniye Municipality
		Domestic Waste	Lot 10 of block 626	Visual monitoring,	Daily	- Minimization of total waste generated - Increase in the ratio of recovered/reused/recycled waste to total waste generated	Waste Management Regulation WB ESS3	Ümraniye Municipality
		Packaging Waste	Lot 10 of block 626	Visual monitoring,	Daily	- Minimization of total waste generated - Increase in the ratio of recovered/reused/recycled waste to total waste generated	WB ESS3	Ümraniye Municipality

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
7	Changes in ground structure and erosion as a result of excavations and debris accumulation	-	Lot 10 of block 626	Visually - Geotechnics , reviews	Before starting and during the work	Zero grievances per year	-	Ümraniye Municipality
8	Community Health and Safety	Grievance Mechanism	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Grievance Mechanism	Daily throughout the duration of the studies	- Zero incidents per year - Zero number of drivers found to be exceeding speed limits or driving unsafely - Zero accidental injuries and deaths, - Zero traffic-related grievances - Zero Number of unauthorized accesses to the sub-project area	-	Ümraniye Municipality
9	Redress of grievance	Grievance Mechanism	Areas close to the sub-project site Cabikebir Neighborhood	"Grievance Forms" to be left around the construction site will be collected by the responsible person and forwarded to Ümraniye Municipality. It will be monitored by Ümraniye Municipality through the internet website,	Daily throughout the duration of the studies	- All grievances closed-out within the target timeframe - GM disclosure to the PAPs, stakeholders - GM disclosure at Sub-project web site	-	Ümraniye Municipality

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
				telephone and written applications to Ümraniye Municipality. "Grievance Close Out Form" will be kept.				
10	Use of protective equipment , occupational safety training and OHS measures	Worker Safety	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring,	Daily	Zero work accidents	-	Ümraniye Municipality
11	Surface, ground and water quality	Fuel, oil, antifreeze, etc. spills	Lot 10 of block 626, sub-project area transportation route, energy transmission line route	Visual monitoring	Daily	- Minimization and continued improvement in the number of the reported soil quality related incidents - Zero NCRs per year - Zero accident per year - Zero grievances per year		Ümraniye Municipality

Ref.	Subject	Parameter to be Monitored	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring/Key Performance Indicators (KPIs)	Reference Threshold Level (if applicable)	Responsibility for Monitoring
13	Worker Safety	Use of protective equipment , occupational safety training and OHS measures	Lot 10 of block 626	Visual monitoring,	Daily	• 100% compliance with labor laws and regulations • Zero unresolved health and safety incidents within the target timeframe • 100% availability of required PPE • 90% or higher worker satisfaction rate	The data obtained through field controls and feedback will be recorded by preparing an accident notification report and will be forwarded to Ümraniye Municipality officials on the same day. İlbank will be notified immediately by Ümraniye MunicipalityThe WB will be informed by İlbank about the accident within 24 hours latest, and the accident result report and additional measures to be taken within 15 days.	Ümraniye Municipality

4.8 List of Associated Plans and Procedures

The E&S management plans and procedures to be prepared by Contractor/s are listed in Table 37.

Table 37.Plans and Procedures associated

Management Plan or Procedure	Relevant Subproject Phase (Construction only, Operation only, both Construction and Defect Liability Period (DLP))
Air Quality Management Plan	Construction only
Noise Management Plan	Construction only
Chance Finds Procedure	Construction only
Biodiversity Management Plan	Construction only
Traffic Management Plan	Construction only
Spill and Leak Response Procedures	Construction only
Contractor's E&S Management Plan	Construction and Operation
Labor Management Plan	Construction and Operation
Emergency Preparedness and Response Plan	Construction and Operation
Fire Extinguishing Plan	Construction and Operation
OHS Management Plan	Construction and Operation
Grievance Mechanism Procedure	Construction and Operation
Spill and Leak Response Procedures	Construction and Operation
Hazardous Material Management Plan	Construction and Operation
Waste Management Plan	Construction and Operation
Water Management Plan	Construction and Operation
Annual Training Plan	Construction and Operation

The plans/procedures will be reviewed and revised in any major change and/or at least every 6 months.

4.9 Management of Change

Sub-borrower shall notify ILBANK of material changes in Subproject (including those that stem from sub-borrower and/or contractor activities) using ILBANK's Change Notification Form template (Annex I). Such changes may include, inter alia, the following:

- Administrative/ organizational structure changes at the decision-making level
- Changes in assigned environmental, social and/or OHS staff
- Legislative changes impacting Subproject implementation (e.g. new permitting processes).
- Design changes (e.g. any changes in the Subproject description, footprint such as new temporary or permanent sites/facilities – on-site or off-site, changes in number of workforce involved, changes in on-site/off-site worker accommodation arrangements).
- Schedule changes.
- Changes related to E&S issues (e.g. new biodiversity features or cultural heritage assets identified, additional resettlement need, etc.)

Contractor or construction supervision consultants changes at any phase of the Subproject requiring

- E&S commitments and E&S roles and responsibilities to be clarified with the new contractor or supervision consulting firm,
- Contractor E&S training to be reorganized and redelivered to new contractor or supervision consulting firm's staff.

4. CAPACITY DEVELOPMENT AND TRAINING

5.1 Organizational Capacity

The organization structure of the Ümraniye Municipality to be established by the Sub-borrower is presented in Figure 17. The PIU will have qualified staff and resources to the satisfaction of ILBANK.

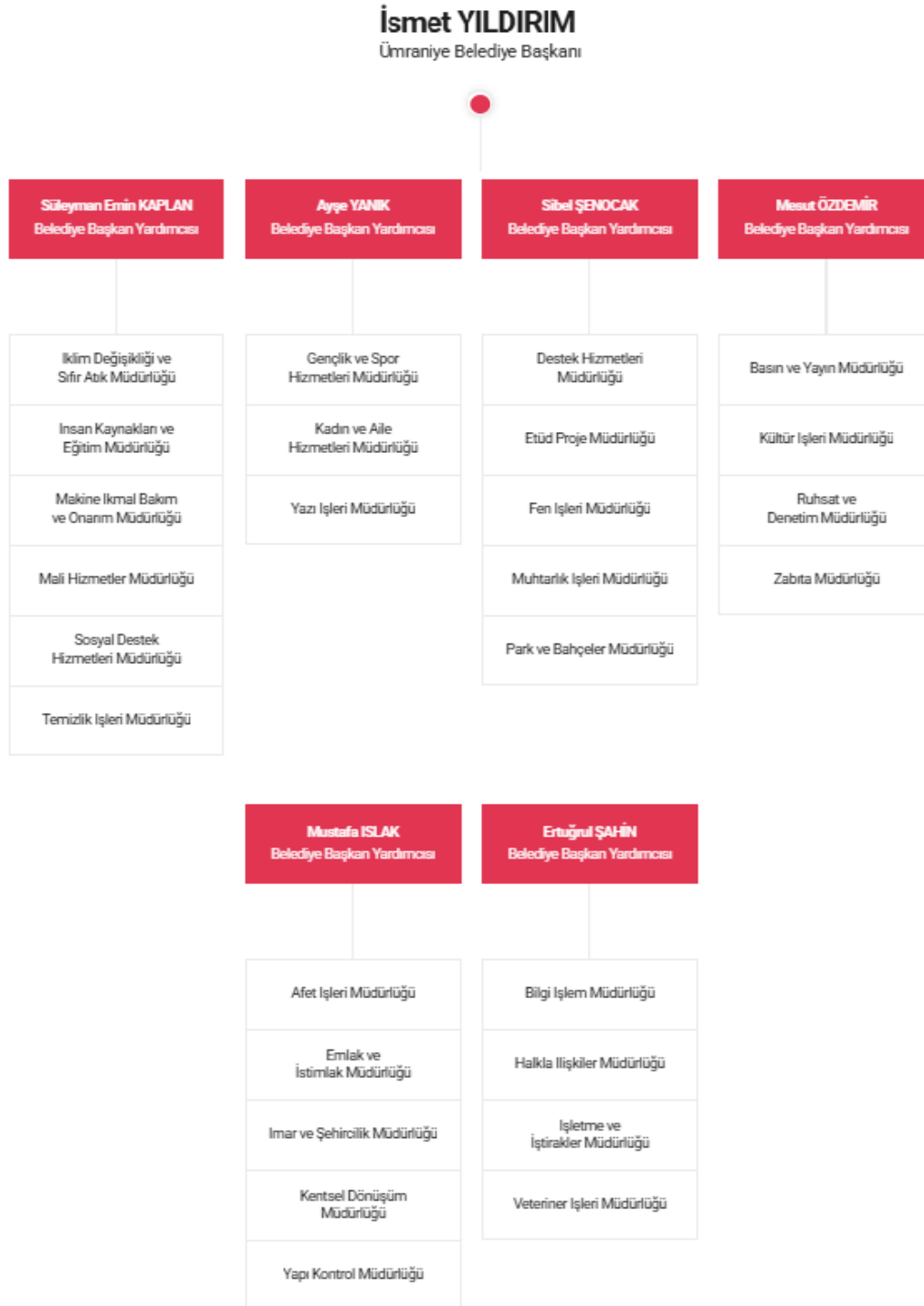


Figure 17. Organization Structure – Ümraniye Municipality

The Sub-borrower will maintain the PIU by ensuring that there is qualified staff assigned and serving on the duty throughout the sub-financing agreement life cycle.

At minimum, the E&S team at the Sub-borrower PIU will include the following personnel who shall support management and monitoring of Subproject E&S risks and impacts and ensure full compliance with the ESMP and other relevant E&S instruments:

- **Environmental Specialist(s):** to address environmental risks and impacts identified under the Environmental and Social Assessment (ESA) reports, such as Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), etc.
- **Social Expert/ Grievance Mechanism (GM) Focal Point:** to address social risks and impacts under the ESA reports, land acquisition, and labor issues, including stakeholder engagement and grievance redress; and
- **Occupational Health and Safety (OHS) Specialist(s)** to address OHS risks and impacts under the ESA reports.

If the necessary staff is not available within its own organizational structure, the Sub-borrower shall receive support/ consultancy services from outside.

The persons responsible for communication with IIBank and ensuring that the sub-project studies comply with the relevant requirements of IIBank's ESMS in line with IFC standards are Ümraniye Municipality Personnel and are 5 people in total, including 2 environmental experts, 1 OHS expert, 1 social expert, and 1 human resources expert. Information about authorized persons is shared in annex (See Annex A).

Contractors

The Sub-borrower will require awarded contractors to establish and maintain throughout the contract duration an organizational structure with qualified staff and resources.

This will be achieved through assigning the following personnel under the contractor's organization:

- Environmental Specialist(s)
- Social Specialist(s) who will also act as the GM Focal Point
- Occupational Health and Safety (OHS) Specialist(s)

If the necessary staff is not available within its own organizational structure, contractors shall receive third-party support/ consultancy services.

5.2 Roles and Responsibilities

The roles and responsibilities of the sub-borrower and other key parties regarding their Environmental and Social responsibilities are given in the Table 38.

Table 38. Roles and E&S related Responsibilities of Key Parties associated with ESMP Implementation

Party	Role	Key Responsibilities
Sub-borrower		
Ümraniye Municipality	Sub-borrower Management	• Hold ultimate responsibility for the E&S performance of the Subproject to the satisfaction of the ILBANK, including the performance of Subproject contractors throughout the sub-financing agreement life cycle. • Establish Project Implementation Unit (PIU) following the execution of sub-financing agreements to carry out operational and administrative tasks to oversee the implementation of the E&S instruments and monitoring progress; allocate resources for the recruitment of in-house environmental, social and OHS staff under the PIU • Ensure that ESMP, SEP and other E&S management plans and procedures required by ILBANK is prepared within the timeframes agreed with ILBANK and allocate adequate financial and human resources – either from the Sub-borrower's own resources or from the Subproject loan and implement. • Cooperate with the ILBANK representatives to discuss and agree on the ESAP and other E&S covenants for incorporation into sub-financing agreements to be executed between the ILBANK and the sub-borrower (with support from WB E&S team as necessary) • Ensure that EHSS requirements of ILBANK are incorporated into relevant contractor tender and agreement documents to be prepared in collaboration with the construction Supervision Consultant • Hold and use the authority and responsibility to stop any Subproject related work activity if it poses an imminent danger to health, safety, or the environment. • Allocate resource to ensure monitoring of Subproject E&S performance and reporting to ILBANK at IFI standards in line with the sub-financing agreement conditions • Facilitate monitoring visits and audits by ILBANK and their consultants • Notify the ILBANK WB – E&S Teams of any significant E&S incident or accident within maximum 24 hours of the accident/incident; contractually require the Supervision Consultants and/or contractors to promptly report such incident and accidents (timeframe to be defined by ILBANK) (Annex F) • Prepare and submit a detailed E&S Incident Investigation Form, supplemented by an RCA to be conducted pursuant to GIIPs, to ILBANK within 15 days of the accident/incident date for significant accidents or incidents (in line with the template presented in the E&S Supervision, Monitoring and Reporting Procedure). The investigation will be supplemented by a Root Cause Analysis (RCA) (Annex G).

Party	Role	Key Responsibilities
	E&S Team - Environmental staff - Social staff - OHS staff	• Participate in the training to be organized by ILBANK as part of ILBANK ESMS Training Procedure implementation • Ensure that satisfactory ESMP, SEP and as required other E&S assessment documentation required by ILBANK is prepared by qualified independent specialists and submitted to ILBANK for appraisal and credit decision-making for High and Substantial risk Subproject, as well as for • Moderate risk Subproject where the sub-borrower has limited E&S capabilities, coordinate commissioning independent third-party specialists (such as external E&S consultancy companies, individual consultants) to carry out the E&S assessment and prepare the E&S documentation required for ILBANK's appraisal and credit decision-making processes • Provide ILBANK with relevant adequate information to undertake the E&S due diligence in accordance with the ESMS (e.g. duly completed sub-borrower questionnaire and supporting documentation to be requested by ILBANK in accordance with the E&S Screening and Risk Classification and ESS procedures) • Support the sub-borrower management as required in the review and evaluation of ESAP and other E&S covenants for incorporation into sub-financing agreements to be executed between the ILBANK and the sub-borrower • Ensure compliance of Subproject operations (including contractor activities on site) with national legislation and E&S requirements of the lending IFIs as included in the sub-financing agreements, ESAP and Subproject-specific E&S documentation (such as ESMP, SEP and other E&S management plans and procedures required by ILBANK) • Undertake monitoring of Subproject E&S performance and reporting to ILBANK at IFI standards in line with the sub-financing agreement conditions • Ensure implementation of corrective actions in case of E&S non-compliances in coordination and agreement with ILBANK and WB E&S teams over reasonable timeframes • Coordinate the Supervision Consultant, contractors and/or external E&S consultants for collection of the monitoring data and compilation of or providing input to periodic monitoring reports as necessary and appropriate • Allow ILBANK representatives (including individual consultants) to access Subproject facilities and records.
Supervision Consultants ("Müsavir")	Management E&S staff	Carry out the following tasks on behalf of the sub-borrowers: • Participate in the training sessions to be organized by sub-borrowers in line with the requirements of ILBANK ESMS Training Procedure • Supervise the construction works of contractors on-site, including implementation of Subproject-specific E&S requirements (requirements stemming from ESMP, SEP and other E&S management plans and procedures required by ILBANK as applicable) by contractors on a daily basis • Ensure sufficient E&S capacity for implementation of E&S requirements as set out in the sub-financing agreements between the sub-borrower and ILBANK

Party	Role	Key Responsibilities
		• Support the sub-borrowers for the supervision and review of E&S management documentation prepared by construction contractors and submit them to sub-borrowers upon finalization • Review monthly self-monitoring reports prepared by the construction contractors for early identification of E&S issues and/or non-compliances and submit them to municipalities/municipal utilities upon finalization • Identify E&S non-compliances on site and enforce construction contractors to undertake corrective actions within defined and agreed timeframes • Support the sub-borrowers (as requested) in the preparation of periodic E&S monitoring reports to be submitted to ILBANK in line with the ILBANK E&S Supervision, Monitoring and Reporting Procedure • Notify the sub-borrower of any significant E&S incident or accident that have taken place in Subproject related operations within 24 hours
Construction Contractor	Management E&S staff	• Ensure sufficient E&S capacity for implementation of E&S requirements as set out in the construction contracts • Participate in the training sessions to be organized by sub-borrowers in line with the requirements of ILBANK ESMS Training Procedure • Prepare Subproject-specific E&S management plans and procedures prior to start of construction works as required by the construction contracts • Comply with the requirements of national legislation and implement the E&S requirements as set out in the sub-financing agreements (executed between ILBANK and the sub-borrowers) and construction contracts • Submit periodic (in frequencies to be set by ESAP) E&S self-monitoring reports to the municipalities/municipal utilities through Supervision Consultant ("müşavir") – in line with the format provided by ILBANK. • Fill in monthly occupational health and safety (OHS) forms – reviewed by Supervision Consultant. • Implement corrective actions in case of E&S non-compliances under the supervision of sub-borrower's Supervision Consultant. • Promptly notify the sub-borrower of any significant E&S incident or accident that have taken place in Subproject related operations (timeframe to be defined by ILBANK no later than 24 hours)

5.3 Capacity Building and Training

Sub-borrower personnel (trained by ILBANK) will provide E&S training to contractors. Training contents are given in the Table 39. For relevant aspects such as OHS, mitigation of environmental impacts, etc., the E&S training programs will be integrated with the technical/ operational training programs (including any practical training where necessary) to be delivered by the contractors to contractor and sub-contractor workers on the operating principles of the power plant, operations involving high voltage equipment, field safety, field maintenance-repair, material replacement, fault detection, and intervention during and after installation and incorporated to the operation manuals to be prepared by the Ümraniye Municipality.

Sub-borrower will ensure that E&S training programs are expanded to subcontractors by contractors in case their involvement in Subproject implementation.

For relevant aspects such as OHS, mitigation of environmental impacts, etc., the E&S training programs will be integrated with the technical/ operational training programs (including any practical training where necessary) to be delivered by the contractors to contractor and sub-contractor workers on the operating principles of the power plant, operations involving high voltage equipment, field safety, field maintenance-repair, material replacement, fault detection, and intervention during and after installation and incorporated to the operation manuals to be prepared by the Ümraniye Municipality.

Table 39. Training Components for Training of Contractor Staff

Module	Training Name	Training Duration	Key Training Content
Module 1	ILBANK E&S Requirements	1 hour	- Overview of ILBANK E&S requirements: - o ILBANK E&S Policy (including but not limited to the guiding principles on human rights, labor rights and working conditions, community health, safety and well-being, cultural heritage, gender equality, etc.) - o External Communications (including stakeholder engagement, grievance management, etc.) - o Monitoring, Review and Reporting - o Labor Management, Contractor Management - ILBANK Code of Conduct
Module 2	Subproject-level E&S Requirements for contractors as per sub-financing agreement conditions	3 hours	- Subproject specific requirements: - o E&S covenants included in sub-loan agreements - o Subproject ESAP requirements - o Subproject-level E&S assessment and management documentation (such as ESMP, SEP and other E&S management plans and procedures as applicable); - o Emergency Preparedness and Response Plan including a training program for emergency responders including drills at regular intervals; - o Specific training (such as driver training in case of involvement of vehicles or fleets of vehicles in Subproject-operations, training of security forces in the use of force (and where applicable, firearms), and appropriate conduct toward workers and affected communities, etc.). - Preparation and implementation of Labor Management Plans.

5. IMPLEMENTATION SCHEDULE AND COST ESTIMATES

6.1 Implementation Schedule

The construction and operation phase activity periods are listed in the Table 40.

Table 40. Duration of Activities

Phase	Remarks/ Notes
Construction Duration	6 months
Defect Liability Period	1 years
Operation Duration inc. DLP	25 years

6.2 Cost Estimates

All costs for implementing the ESMP are included in the Project budget (See Table 41).

- Allocating resources for project management activities related to overseeing the implementation of the ESMP and coordinating with contractors and stakeholders; hiring Environmental and Social Experts to provide supervision and monitoring.
- Training costs for construction workers and project staff on environmental and social best practices and protocols.
- Investment in health and safety training and equipment for employees to prevent accidents and mitigate occupational health risks.
- Periodic Third-Party Audits and Reviews by independent third parties to assess the effectiveness of the ESMP and identify areas for improvement.
- Renewal of infrastructure necessary to mitigate environmental and social impacts, such as roads or wildlife barriers; setting aside funds to address unforeseen environmental or social issues that may arise during construction such restoration of any damage on roads or public amenities.
- Expenses related to stakeholder engagement and corporate social responsibility programs.
- Budget for investigation of grievances for nuisance from potential noise and dust emissions and taking of additional measures as necessary.
- Budget for management of accidental spills and leakages of oils and chemicals in order to protect soil and groundwater.

Budget for regular maintenance of the waste storage area, cesspit, fencing.

Table 41.ESMP Cost Breakdown for Implementation and Monitoring

Budget Item	Estimated Amount
Construction Phase	
Environmental Expert	Key Personnel (*)
Social Expert	Key Personnel (*)
OHS Expert	Key Personnel (*)
Monitoring (Measurements and laboratory analyses)	Belongs to the Contractor's Budget (**)
Finance Expert	No Additional Charges (***)
Technical Expert	No Additional Charges(***)
Operation Phase	
Monitoring (Measurements and laboratory analyses)	Included in the operation budget of Ümraniye Municipality (**)
Finance Expert	No Additional Charges (***)
Technical Expert	No Additional Charges (***)

(*) The recruitment of experts is financed within the budget for audit consultancy services. The relevant cost estimates are taken into account at the first stage of consultant selection. Contractors are obliged to recruit environmental, social and OHS experts for the implementation and monitoring of the ESMP within the scope and price of their bids. The monthly cost estimate per expert at this stage is €1,000/month.

(**) Laboratory and testing obligations and the relevant reporting responsibility will be included in the employment contract during the construction period and the defects liability period. This responsibility will then be transferred to Ümraniye Municipality for the operation phase.

(***) Since Ümraniye Municipality's permanent staff will be assigned to these positions, no additional costs will be incurred in the sub-project budget

List of Annexes

Annex A	List of the Individuals/Organizations that Prepared or Contributed to the ESMP
Annex B	Existing Permitting Documentation
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Annex K	Sub project Fauna
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Annex A – List of the Individuals/Organizations that Prepared or Contributed to the ESMP

Company/ Institution	Profession/ Expertise
PVGLOBAL Energy	Social Expert
	Environmental Expert

Annex B – Existing Permitting Documentation

EIA Positive Decision Letter



T.C.
ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
Çevresel Etki Değerlendirmesi, İzin ve Denetim Genel Müdürlüğü



Sayı : E-48331039-220.01-10353572

04.09.2024

Konu : Ümraniye Belediyesi Güneş Enerji Santrali
(GES) (13,728 MWm/ 11,221 MWe/
13,728 MWp- 16,52 Ha) Projesi ÇED
Olumlu Kararı

Ümraniye Belediyesi (O 216-
4435000-1322) (YAZI İŞLERİ
MÜDÜRLÜĞÜ) (HAYAT - İKLİM
DEĞİŞİKLİĞİ VE SİFİRLİ ATIK
MÜDÜRLÜĞÜ)
Kayıt Sayısı: 169/91
17.09.2024 11:17:21 tarihinde
gönderilmiştir.

ÜMRANIYE BELEDİYEBAŞKANLIĞI NA

Elazığ İli, Maden İlçesi, Camiikebir Köyü, 626 Ada, 10 No'lu Parsel sınırları içerisinde, Ümraniye Belediye Başkanlığı tarafından yapılması planlanan Ümraniye Belediyesi Güneş Enerji Santrali (GES) (13,728 MWm/ 11,221 MWe/ 13,728 MWp- 16,52 Ha) projesi ile ilgili olarak Bakanlığımıza Çevrimiçi ÇED süreci Yönetim Sisteminden sunulan ÇED Raporu, İnceleme Değerlendirme Komisyonu tarafından incelenmiş ve değerlendirilmiştir.

Ümraniye Belediyesi Güneş Enerji Santrali (GES) (13,728 MWm/ 11,221 MWe/ 13,728 MWp- 16,52 Ha) projesi hakkında 29.07.2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği'nin 14. maddesi gereğince Bakanlığımızca "Çevresel Etki Değerlendirmesi Olumlu" Kararı verilmiş olup, Elazığ Valiliği (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) tarafından kararın halka duyurulması gerekmektedir.

Söz konusu projeye ait Nihai ÇED Raporu ve eklerinde belirtilen hususlar ile 2872 sayılı Çevre Kanununa istinaden yürürlüğe giren yönetmeliklerin ilgili hükümlerine uyulması, mer'î mevzuat uyarınca ilgili kurum/kuruluşlardan gerekli izinlerin alınması, projede yapılacak Yönetmeliğe tabi değişikliklerin de Bakanlığımıza veya Elazığ Valiliği (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) 'ne iletilmesi gerekmektedir.

Bununla birlikte, bahse konu proje ile ilgili olarak proje sahibi tarafından, 29.07.2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliğinin 18. Maddesi 4. Fıkrasında yer alan hüküm kapsamında, ÇED Olumlu Karar tarihinden itibaren 3 (üç) aylık periyotlarda yatırımın; inşaat öncesine ve inşaat dönemine ilişkin kaydedilen gelişmeleri içeren Proje İlerleme Raporu'nun Bakanlığımıza sunulması gerekmektedir.

Bilgilerinizi ve gereğini arz/rica ederim.

Eyyüp KARAHAN

Bakan a.

Çevresel Etki Değerlendirmesi
İzin ve Denetim Genel Müdürü

Ek: ÇED Olumlu Belgesi

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Bilgi için:Hakan
SAVAŞTÜRK
Kimya Mühendisi



		
T.C. ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI Çevresel Etki Değerlendirmesi, İzin ve Denetim Genel Müdürlüğü		
ÇED OLUMLU BELGESİ		
29.07.2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren Çevresel Etki Değerlendirmesi Yönetmeliği'nin 14. maddesi gereğince: "Ümraniye Belediyesi Güneş Enerji Santrali (GES) (13,728 MWm/ 11,221 MWe/ 13,728 MWp-16,52 Ha)" projesi hakkında "Çevresel Etki Değerlendirmesi Olumlu" karar verilmiştir.		
Eyyüp KARAHAN Bakan a. Çevresel Etki Değerlendirmesi İzin ve Denetim Genel Müdürlüğü		
Karar Tarihi : 04.09.2024 Karar No : 7915 Proje Sahibi : Ümraniye Belediye Başkanlığı Proje Yeri : Elazığ İli, Maden İlçesi, Camlıköy Köyü, 626 Ada, 10 No'lu Parsel Kapasite: (13,728 MWm/ 11,221 MWe/ 13,728 MWp-16,52 ha)		



TASNİF DIŞI

T.C.
ELAZIĞ VALİLİĞİ
Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü



Sayı : E-14698725-220.03-11905809
Konu : Elektrik Dağıtım Hattı

03.03.2025

DAĞITIM YERLERİNE

İlgi : a) Duru Çevre Teknolojileri ve Lab.Hiz.Müh.Müş.İnş.Taah.San. ve Tic.Ltd.Şti.'nin 12.02.2025 tarihli dilekçesi.
b) 24/02/2025 tarihli ve 211602 Referans No'lu Başvuru.

Elazığ İli, Maden İlçesi Camiikebir, Karatop, Bahçelievler Köyleri mevkiinde Ümraniye Belediye Başkanlığı tarafından yapılması planlanan Elektrik Dağıtım Hattı (34,5 kV gerilim; 6,28 km hat uzunluğu) projesi, 29.07.2022 tarih ve 31907 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

Ancak, planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi gerekmektedir.

Bilgilerinizi ve gereğini arz/rica ederim.

Fatih ÖNALAN
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü V.

Dağıtım:
ÜMRANIYE BELEDİYE BAŞKANLIĞI
DURU ÇEVRE TEK.VE
LAB.HİZ.MÜH.MÜŞ.İNŞ.TAAH.SAN.VE
TİC.LTD.ŞTİ.NE
Meriç Sokak No:5/25 Beştepe YENİMAHALLE /
ANKARA

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KEP Adresi : elazig@csb.gov.tr / hs01.kep.tr

TASNİF DIŞI





T.C.
ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
Mekansal Planlama Genel Müdürlüğü



Sayı : E-65842636-220.01-9801108

02.07.2024

Konu : Elazığ İli, Maden İlçesi, Camikebir Köyü,
626 ada 10 parselde, Ümraniye Belediyesi
Güneş Enerji Santrali (GES) (15,152
MWm/ 11,221 MWe/ 15,152 MWp- 16,52
ha) Projesi İDK Toplantısı Hk.

ÇEVRESEL ETKİ DEĞERLENDİRMESİ, İZİN VE DENETİM GENEL MÜDÜRLÜĞÜNE

İlgi : 13.06.2024 tarihli ve E-48331039-220.01-9771660 sayılı yazınız.

İlgide kayıtlı yazı ile Elazığ İli, Maden İlçesi, Camikebir Köyü, 626 Ada, 10 Parselde Ümraniye Belediye Başkanlığı tarafından yapılması planlanan "Ümraniye Belediyesi Güneş Enerji Santrali (GES) (15,152 MWm/11,221 MWe/15,152 MWp-16,52 ha) Projesi" ile ilgili olarak Çevrimiçi ÇED Süreci Yönetim Sisteminde (e-ÇED) yer alan ÇED Raporuna ilişkin görüşümüzün iletilmesi talep edilmektedir.

ÇED konusu projenin yürürlükteki "Malatya-Elazığ-Bingöl-Tunceli Planlama Bölgesi 1/100.000 ölçekli Çevre Düzeni Planı" kapsamında incelenmesi neticesinde; proje alanının "orman alanı" ve "tarım arazisi" olarak tanımlı alanlarda kaldığı belirlenmiştir. 1/100.000 ölçekli ÇDP-Plan Hükümlerinin "3.5.18.1. Enerji Üretim Alanları" başlığı altında;

"1. Rüzgar, Güneş ve Jeotermal üretim alanlarında aşağıda düzenlenen yer seçimi kriterlerine uyulması ve Bakanlığın görüşünün alınması koşuluyla ilgili kurum ve kuruluşlardan alınan izinler ve Enerji Piyasası Düzenleme Kurumunca verilecek lisans kapsamında, ilgili kurum ve kuruluş görüşleri doğrultusunda hazırlanan nazım ve uygulama imar planları, ilgili idaresince onaylanır ve veritabanına işlenmek üzere Bakanlığa gönderilir:

Rüzgar, Güneş ve Jeotermal üretim alanlarının yer seçiminde şu kriterlere uyulacaktır:

- 6831 Sayılı "Orman Kanunu" kapsamında kalan alanlardaki yatırımların gerekli izinler alınarak öncelikli olarak orman niteliğini kaybetmiş alanlarda gerçekleştirilmesi esastır.

- Tarımsal üretim amaçlı korunması esas olan 5403 sayılı Toprak Koruma ve Arazi Kullanımı Kanunu kapsamında kalan tarım arazilerinde yapılacak olan yatırımlarda 5403 sayılı Kanun hükümleri kapsamında "Tarım Dışı Amaçla Kullanım İzni"nin alınması zorunludur.

- ÇDP'de kullanım sınırlaması getirilen alanlar ile (ekolojik öneme sahip alan, taşkın alanı, su ürünleri üretim alanı) kumul alanlar, sazlık bataklık alanlar, sulak alanlar, sulak alan koruma bölgeleri ve içme ve kullanma suyu koruma kuşaklarında kalan alanlarda yapılacak uygulamalarda imar planlarının hazırlanması aşamasında, üniversitelerin ilgili bölümlerince faaliyetin çevreye olabilecek olası etkilerinin ve alınacak önlemlerin açıklandığı Ekosistem Değerlendirme Raporu hazırlanması zorunludur. Bu alanlarda ilgili mevzuat hükümleri ve Ekosistem Değerlendirme Raporu doğrultusunda uygulama yapılacaktır.

- İmar planı aşamasında, jeolojik etüt raporuna uyulacaktır.

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Mustafa Kemal Mahallesi Eskişehir Devlet Yolu (Dumlupınar Bulvarı) 9. km. No: 278

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T.C.
ELAZIĞ VALİLİĞİ
İl Tarım ve Orman Müdürlüğü



Sayı : E-58308238-230.04.02-10683681
Konu : Maden Camikebir mahallesi 626 ada 10
parsel GES Arazi Sınıf Tespiti

27.07.2023

ÜMRANİYE BELEDİYE BAŞKANLIĞINA
(İklim Değişikliği ve Sıfır Atık Müdürlüğü)

İlgi : 24.07.2023 tarihli ve E-87992888-622.03-76987 sayılı yazınız.

İlgide kayıtlı yazı ile ilimiz Maden İlçesi Camikebir mahallesi sınırları dahilinde bulunan mülkiyeti Hazineye ait 88,3303 hektar alana sahip 626/10 ada/parsel numaralı taşınmazın ekte sayısal krokisi verilen 17,1777 hektarlık kısmının Belediyeniz tarafından GES (Güneş Enerjisi Santrali) yapılması kapsamında mutlak, özel ürün, dikili, sulu tarım arazileri ve çevre arazilerde tarımsal kullanım bütünlüğünü bozan alanları kapsamadığına ilişkin görüş talep edilmiştir.

5403 sayılı Toprak Koruma ve Arazi Kullanımı Kanunu ile 09.12.2017 tarih ve 30265 sayılı Resmi Gazete'de yayımlanan "Tarım Arazilerinin Korunması, Kullanılması ve Planlanmasına Dair Yönetmelik" ve ilgili mevzuatları kapsamında Müdürlüğümüz teknik elemanları tarafından yapılan arazi etüt çalışması sonucu düzenlenen etüt raporundan; alanın tarımsal vasfı olmayan "Tarım Dışı Araziler" sınıfında olduğu belirtilen faaliyet kapsamında tarım dışı amaçlı kullanılması durumunda tarımsal bütünlüğünün bozulmayacağı; yapılacak işlerin niteliği, tarım arazilerine uzaklığı ile arazinin toprak ve topografik yapısı itibarıyla toprak koruma projesine ihtiyaç olmadığı, tarımsal üretim faaliyetleri açısından olumsuzluk teşkil etmeyeceği anlaşılmıştır.

Sonuç olarak söz konusu alan, tarımsal vasfı olmayan Tarım Dışı Araziler sınıfında olup mutlak, özel ürün, dikili, sulu tarım arazileri ve çevre arazilerde tarımsal kullanım bütünlüğünü bozan alanları kapsamamaktadır. Büyük ova koruma alanları dahilinde kalmamaktadır.

Söz konusu yapılan işlem sadece bir sınıf tespiti olup santral kurulması aşamasına gelinmesi halinde DSİ ilgili biriminden mevzuatı kapsamında sakınca olmadığına dair resmi belge ile birlikte plan yapma yetkisine sahip ilgili kurum aracılığı ile Müdürlüğümüzden nihai izin alınması gerekmektedir.

Gereğini arz ederim.

Ali KILIÇ
İl Müdürü V.

Ek: Koordinatlı Kroki (1 Sayfa)

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 380F54BC-62BD-45AA-8181-64CD04A68F4C	Doğrulama Adresi: https://www.turkiye.gov.tr/tarim-ebys
Olgunlar Mahallesi İhsak Sunguroğlu Sokak No:7 ELAZIĞ	Bilgi için:Seda ÖZTÜRK
Tel: (0424) 241 16 16 Faks: (0424) 241 10 72	Müendis
E-Posta: elazig@tarim.gov.tr Kep: tarimveormanbakanligi@hs01.kep.tr	Telefon No:(424) 241 16 16-1148
KEP Adresi : tarimveormanbakanligi@hs01.kep.tr	



T.C.
ELAZIĞ VALİLİĞİ
İl Tarım ve Orman Müdürlüğü



Sayı : E-58308238-230.99-13432655

07.03.2024

Konu : Ümraniye Belediyesi Güneş Enerji Santrali
Projesi Hk.

ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞINA
(Çevresel Etki Değerlendirmesi, İzin ve Denetim Genel Müdürlüğü)

İlgi : Enerji Yatırımları Şube Müdürlüğünün 06.02.2024 tarihli ve E-48331039-220.01-8696933
sayılı yazısı.

İlgi sayılı yazı ile Elazığ ili, Maden ilçesi Camiikebir köyü, 626 ada 10 numaralı parselde Ümraniye Belediye Başkanlığı tarafından yapılması planlanan Ümraniye Belediyesi Güneş Enerji Santrali (GES)(15,152 MWm/11,221 MWe/ 15,152 MWp- 16,52 ha) projesi ile ilgili ÇED Yönetmeliği hükümlerine göre ÇED başvuru dosyası hakkında kurum görüşümüz talep edilmektedir.

İl Mera Komisyonu teknik ekibinin yaptığı incelemede; söz konusu parselin 4342 sayılı Mera Kanunu kapsamındaki yerlerden olmadığı tespit edilmiştir.

Bitkisel Üretim ve Hayvancılık açısından yapılan incelemede; bahse konu alanda zirai faaliyet bağlamında ekili veya dikili bir tarımsal ürün metaryalinin bulunmadığı, ilgili lokasyonda daha önce zirai faaliyet ile iştilgal edilmediği, alanın umumiyetle bakır forma haiz olduğu, topoğrafik olarak zirai faaliyet için rantabil yerlerden olmadığı, hayvancılık için uygun otlak ve otlatma alanları barındırmadığı, alanın engebeli alanlardan olduğu, mera bitkileri florası için verimli yerlerden olmadığı, güneş enerjisi tesis edilecek alanın en yakın konuta olan uzaklığı kuş uçuşu 900 m mesafede olduğu bu nedenle bölgedeki yerleşimciler ile diğer canlı popülasyonu üzerinde herhangi bir ses ve gürültü kirliliği tehlikesinin mevcut olmadığı tespit edilmiştir.

1380 sayılı Su Ürünleri Kanunu ve Yönetmeliği açısından yapılan incelemede; söz konusu proje alanı içerisinde veya etki edeceği yakın konumda su ürünleri istihsal sahası bulunmadığından, 1380 sayılı Su Ürünleri Kanununun 7. maddesi kapsamında bir sakınca olmayacağı değerlendirilmiştir.

Söz konusu projenin ÇED başvuru dosyası hakkında yapılan incelemeler neticesinde; 5403 sayılı Toprak Koruma ve Arazi Kullanımı Kanunu kapsamında gerekli izinlerin alınması şartıyla sakınca görülmemiştir.

Bilgilerinize arz ederim.

Ali KILIÇ
Vali a.
İl Müdürü V.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 130F10FE-9552-46A5-8D48-F78B0D2440A0

Doğrulama Adresi: <https://www.turkiye.gov.tr/tarim-ebys>

Olgunlar Mahallesi İhsak Sunguroğlu Sokak No:7 ELAZIĞ

Tel: (0424) 241 16 16 Faks: (0424) 241 10 72

E-Posta: elazig@tarim.gov.tr Kep: tarimveormanbakanligi@hs01.kep.tr

KEP Adresi : tarimveormanbakanligi@hs01.kep.tr

Bilgi için: Gizem DÖNMEZ
Tekniker





T.C.
ELAZIĞ VALİLİĞİ
İl Afet ve Acil Durum Müdürlüğü



Sayı : E-98931567-805.02.02.02-847827

Konu : Uygunluk Görüşü

ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞINA
(Enerji Yatırımları Şube Müdürlüğü)

İlgi : 06.02.2024 tarihli ve E-48331039-220.01-8696933 sayılı yazınız.

İlgi yazınızda Elazığ İli Maden İlçesi Camikebir Köyü, 626 Ada, 10 Parselde Ümraniye Belediye Başkanlığı tarafından yapılması planlanan Ümraniye Belediyesi Güneş Enerji Santrali (GES)(15,152 MWm/ 11,221 MWe/ 15,152 MWp- 16,52 ha) projesi hakkında, ÇED Yönetmeliği ÇED Genel Formatı (Ek-3) çerçevesinde hazırlanan ve Bakanlığınıza sunulan dosya ile ilgili ÇED Yönetmeliği'nin 8. maddesi gereğince ÇED süreci başlatılmış bulunmaktadır. Denilmektedir. Bahsi geçen ÇED Başvuru Dosyası hakkında kurum görüşümüz sorulmaktadır.

Kurumumuz arşiv kayıtlarının incelenmesi neticesinde Elazığ İli Maden İlçesi Camikebir Köyü 626 ada 10 numaralı parsel ile alakalı herhangi bir afete maruz bölge kararına rastlanılmadığından projenin gerçekleştirilmesi için kurumumuzca bir sakınca bulunmamaktadır.

Osman PIHTILI
İl Afet ve Acil Durum Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 9FBEC26E-01F3-47F1-8C04-0BCCC5547318
Ataşehir Mahallesi Güney Çevre Yolu No:72 Merkez ELAZIĞ
Telefon No: (424) 247 34 24 Belge Geçer No: (424) 247 15 04
E-posta: elazigmdr@afad.gov.tr İnternet Adresi: elazig.afad.gov.tr
KEP Adresi : elazigafad@hs01.kep.tr

Doğrulama Adresi: <https://www.turkiye.gov.tr/afad-ebys>

Bilgi için:Muhammed
Kuthan SUROĞLU
Jeoloji Mühendisi





T.C.
KÜLTÜR VE TURİZM BAKANLIĞI
Kültür Varlıkları ve Müzeler Genel Müdürlüğü
Diyarbakır Kültür Varlıklarını Koruma Bölge Kurulu Müdürlüğü



Sayı : E-44821064-169.99-4748156
Konu : Elazığ İli Maden İlçesi Camikebir Köyü,
626 Ada, 10 Parsele ait Güneş Enerji
Santrali (GES) Projesi hk. (23.05.89)

ENERJİ YATIRIMLARI ŞUBE MÜDÜRLÜĞÜNE

İlgi : 06.02.2024 tarihli ve E-48331039-220.01-8696933 sayılı yazınız.

Elazığ İli Maden İlçesi Camikebir Köyü, 626 Ada, 10 Parselde Umraniye Belediye Başkanlığı tarafından yapılması planlanan Umraniye Belediyesi Güneş Enerji Santrali (GES)(15,152 MWm/ 11,221 MWe/ 15,152 MWp- 16,52 ha) projesi hakkında, ÇED Yönetmeliği ÇED Genel Formatı (Ek-3) çerçevesinde hazırlanan ve Bakanlığımıza sunulan dosya ile ilgili ÇED Yönetmeliği'nin 8. maddesi gereğince ÇED süreci başlatılmış olup, söz konusu proje için biriminizin/kurumunuzun yasal yetki, görev ve sorumlulukları çerçevesinde Çevrimiçi ÇED Süreci Yönetim Sisteminde yer alan ÇED Başvuru Dosyası hakkında görüşümüzün 04/03/2024 tarihine kadar iletilmesinin istendiği ilgi yazı incelenmiştir.

Müdürlüğümüz arşivinde yapılan inceleme sonucunda; Elazığ İli Maden İlçesi, Camikebir Mahallesi'nde yer alan 626 ada 10 parselde kayıtlı taşınmazla ait tescil kaydının bulunmadığı ve daha önce Müdürlüğümüz uzmanlarınca yerinde yapılan inceleme sonucunda, taşınmaz yüzeyinde 2863 sayılı Kanun ve ilgili Mevzuat kapsamında değerlendirilebilecek herhangi bir taşınır taşınmaz kültür varlığına rastlanılmadığı belirtilmiştir.

Ancak, ilgi yazı ekinde iletilen taşınmaz üzerinde yapılacak çalışmalar sırasında ve sonrasında taşınır-taşınmaz herhangi bir kültür varlığının çıkması ya da bulunması halinde ilgili özel veya tüzel kişiliklerin; 2863 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanununun 4. Maddesinde belirtildiği şekliyle; taşınır ve taşınmaz kültür ve tabiat varlıklarını bulanlar, malik oldukları veya kullandıkları arazinin içinde kültür ve tabiat varlığı bulunduğunu bilenler veya yeni haberdar olan malik ve zilyetler, bunu en geç üç gün içinde, en yakın müze müdürlüğüne veya köyde muhtara veya diğer yerlerde mülki idare amirlerine bildirmeye mecburdurlar hükmü doğrultusunda haber vermekle yükümlüdürler.

Bilgilerinizi ve gereğini arz ederim.

Mehriban KARAASLAN
Koruma Bölge Kurulu Müdürü

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 30D70516-B6F3-4AAF-89A6-B1B7ED6E093F

Doğrulama Adresi: <https://www.turkiye.gov.tr/ktb-cbys>

İnönü Cad. Ziya Gökalp Sok. No:23

Telefon No: (0412) 2240831 - Fax: (0412) 223 40 89

Sur/ DİYARBAKIR kep: dbakirkulturvarliklari@hs01.kep.tr

Bilgi için: Suzan SÜNGÜ
TEKİN
Şehir Plancısı





T.C.
TARIM VE ORMAN BAKANLIĞI
Devlet Su İşleri Genel Müdürlüğü
Etüt, Planlama ve Tahsisler Dairesi Başkanlığı



Sayı : E-22549675-611.02-4422746
Konu : Elazığ İli Maden İlçesi Ümraniye
Belediyesi Güneş Enerji Santrali
(GES)(15,152 MWm/ 11,221 MWe/15,152
MWp- 16,52 ha) Projesi ÇBD Görüşü

DAĞITIM YERLERİNE

İlgi : Enerji Yatırımları Şube Müdürlüğünün 06.02.2024 tarihli ve E-48331039-220.01-8696933
sayılı yazısı.

İlgi yazınız ile Elazığ İli Maden İlçesi Camikebir Köyü, 626 Ada, 10 Parselde Ümraniye
Belediye Başkanlığı tarafından yapılması planlanan "Ümraniye Belediye Güneş Enerji Santrali
(GES)(15,152 MWm/ 11,221 MWe/ 15,152 MWp- 16,52 ha)" projesi için hazırlanan ÇED başvuru
dosyasına ilişkin olarak Kuruluşumuz görüşünün yazılı olarak tarafınıza bildirilmesi talep edilmektedir.

Söz konusu ÇED başvuru dosyası incelenmiş olup aşağıdaki tespitler yapılmıştır.

Kuruluşumuz Tesisleri İle İlgili Hususlar:

Faaliyet alanında mevcut veya mutasavver herhangi bir projemiz bulunmamaktadır.

Yerüstü Suları İle İlgili Hususlar:

Faaliyet alanında yazımız ekindeki uydu görüntüsünde güzergâhları belirtilen derelerin
bulunduğu tespit edilmiştir. Bu derelerin sağ ve sol şev üstleri arasında kalan bölümler dere yatağı
olarak, dere yatağının sağ ve sol sahilinde olmak üzere her iki yönünde dereye paralel ve devamlı olacak
şekilde 6 m dere servis-bakım yolu mesafesi olarak ayrılmalıdır.

Su Kirliliği Kontrolü Yönetmeliği, İçme-Kullanma Suyu Havzalarının Korunmasına Dair
Yönetmelik hükümlerine uyulmalıdır.

Yeraltı Suları İle İlgili Hususlar:

Proje alanı ve yakın çevresinin hidrojeolojik özellikleri hakkında bilgi verilmelidir. Yeraltı
sularının bahse konu projeden etkilenme durumu, proje sahası içerisinde ve civarında kaynak olup
olmadığı, inşaat ve işletme çalışmalarının, yeraltı suyu akiferine, su kaynaklarına ve mevcut kuyulara
olan etkisi ortaya konmalı ve raporda yer almalıdır.

Faaliyet alanı ve çevresine ait hidrojeoloji bilgisi verilmeli ve 1/25000 ölçekli hidrojeoloji haritası
hazırlanmalıdır.

Proje sahasındaki tüm faaliyetlerde meydana gelecek kirlетici unsurların, tehlikeli ve kirlетici
maddelerin (katı ve sıvı tüm atıklar) meteorik suların etkisiyle yeraltı suyuna karışmasının önleneyeği ve
sahada kullanılacak olan tüm depolama malzemeleri ve depolama zeminlerinin (fosseptikler,
konteynırlar, tanklar, çöktürme havuzu vb.) sızdırmazlıklarının sağlanacağı taahhüt edilmelidir.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 10154962-4B4F-4EDD-B3EE-75EF32491D2F
Adres: Mustafa Kemal Mahallesi Anadolu Bulvarı No:9 PK: 06530
Çankaya/ANKARA
Telefon No : Belgegeçer No :
KEP Adresi : dsi.gnlmud@hs01.kep.tr

Doğrulama Adresi: <https://www.turkiye.gov.tr/devlet-su-isleri-ebys>

Bilgi için:Dilek GÜLER
Biyolog
Telefon No:(312) 454 57 98



Faaliyet alanı içerisinde ve civarında su kaynağına rastlanması durumunda Kuruluşumuzla ittibata geçilmeli, su kaynağı ve kaynağı besleyen alanda herhangi bir tahribat yapılmamalı, bu alanlarda işletme faaliyeti yapılmamalıdır.

Yeraltı suyu seviyesi altında herhangi bir kazı yapılmaması, gerek planlama gerek inşaat gerekse işletme aşamasında personel ve işletme kaynaklı her türlü atığın tabii zemin ile temasının kesilmesi, sızdırmazlık sağlanarak depolanması ve ilgili tüm yönetmeliklere uygun olarak bertaraf edilmesi ve yeraltı suyu ve yüzeysel suların kirlenmesini önleyici bütün tedbirlerin alınarak kaynak/kaynaklar veya yeraltı suyu hiçbir şekilde müdahale edilmemesi, tespit edilmiş ya da sonradan tespit edilecek çeşme, kaynak vb. su yapılarına veya yeraltı suyu olumsuz etkinin saptanması durumunda zararın faaliyet sahibince tazmin edilmesi ve engellenemeyen herhangi bir zarar durumunda ise işletmenin iptal edilmesi gerekmektedir.

Faaliyet alanı ve çevresinde içme ve kullanma suyu temini amacıyla veya kadim hak olarak sulamada kullanılan, henüz tahsis konu olmamış veya tahsis işlemi başlamamış, envanterimizde bulunmayan 3. kişi ve kuruluşlar tarafından kullanılmakta olan su kaynaklarının (pınar, kaynak, kuyu, kaptaj vb.), Kuruluşumuza veya Resmi Kurumlara yapılan şikayetler sonucunda yapılan faaliyetten olumsuz etkilendiğinin tespit edilmesi durumunda, oluşacak zarar-ziyanın faaliyet sahibi tarafından karşılanacağı yada alternatif su kaynağı (YAS Kuyusu, pınar ve kaynak, kaptaj vb.) araştırması yaparak oluşacak mağduriyetlerin önleneyeceği hususlarının, faaliyet sahibi tarafından taahhüt edilmesi gerekmektedir.

Yeraltı suyu kaynaklarının (varsa kaynak, sondaj kuyusu, vs.) miktar ve su kalitesi açısından olumsuz etkilenmemesi için tüm önlemler alınmalı ve proje kapsamında "Yeraltı Suları Hakkında Kanun" ve "Yeraltı Sularının Kirlenmeye ve Bozulmaya Karşı Korunması Hakkında Yönetmelik" hükümlerine uyulmalıdır.

Taşkın Kontrolü ve Drenaj Çalışmaları ile İlgili Hususlar:

Faaliyet sahası civarında baz akımlı ve kuru dere yataklarında olası aşırı yağışlarda oluşabilecek çevre yüzey ve taşkın sularına karşı tüm tedbirlerin faaliyet sahibi tarafından alınması, yapıların su basman kotunun doğal zemin kotundan yeterli yükseklikte uygulanması, faaliyet sahibinin ve taşınmaz üzerindeki yapılaşmadan dolayı 3. kişilerin görebileceği zarar ziyan hususunda DSI'den zarar ziyan talep edilmemesi, taşkın zararlarından DSI'nin sorumlu tutulmaması gerekmektedir.

Proje sahası ve mücavirindeki akar ve kuru dereler üzerinde yol geçişi sağlanması durumunda Karayolu Yolboyu Mühendislik Yapıları İçin Afet Yönetmeliği esasları doğrultusunda gerekli projelendirme yapılmalı, DSI 9. Bölge Müdürlüğü'nden hidrolik olarak uygunluk görüşü alındıktan sonra fenni usul ve esaslar doğrultusunda inşa edilmelidir.

Kuruluşumuzca inşa edilen taşkın kontrol tesislerinde uygulanan minimum menfez boyutu 2 m x 2 m olup, çok gözlü menfez şeklinde yapılan geçiş yapıları taşkınlar esnasında sürüklenen rusubat ile bitki kök ve dalları nedeniyle tıkanmakta, can ve mal kayıplarına neden olmaktadır. Bu sebeple, derelerle alakalı yapılacak her türlü çalışmaların DSI 9. Bölge Müdürlüğü'nün izni dahilinde olması gerekmektedir.

Mevcut dere yataklarına pasa malzeme, katı veya sıvı atık dökülmeyeceği, kesitlerin daraltılmayacağı, dere yataklarının mevcut ve kadastral genişliğinin aynen korunacağı, derelerin her iki sahilinde şev üstlerinden itibaren dere servis-bakım mesafesini de kapsayan asgari 20'şer metrelik şeritvari sahada hiçbir şekilde kazı ve dolgu yapılmayacağı, dere yataklarına ve kenarlarına üretim faaliyetlerinden kaynaklı atık, üretim firesi vb. malzeme de konulmayacağı hususu ÇED raporunda taahhüt edilmelidir. Derelere yaklaşma mesafesi vaziyet planında gösterilmelidir.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 10154962-4B4F-4EDD-B3EE-75EF32491D2F

Doğrulama Adresi: <https://www.turkiye.gov.tr/devlet-su-isleri-ebys>

Adres: Mustafa Kemal Mahallesi Anadolu Bulvarı No:9 PK: 06530

Bilgi için:Dilek GÜLER

Çankaya/ANKARA

Biyolog

Telefon No : Belgegeçer No :

Telefon No:(312) 454 57 98

KEP Adresi : dsi.gnlmud@hs01.kep.tr



Proje alanı içerisinde ve çevresinde yer alan dereler için 09 Eylül 2006 tarih ve 26284 sayılı Resmi Gazetede yayımlanarak yürürlüğe giren 2006/27 Sayılı "Dere Yatakları ve Taşkınlar" konulu Başbakanlık Genelgesi'nde belirtilen hükümler ile 03.05.2019 tarih ve 30763 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren Taşkın ve Rüşubat Kontrolü Yönetmeliği hükümlerine uyulmalıdır.

Su Temini İle İlgili Hususlar:

Faaliyet kapsamında kullanılacak suyun miktarı (m^3 /gün ve m^3 /yıl), kullanım amacı ve temin yeri vb. bilgiler detaylı bir tablo halinde sunulmalıdır. Suyun temin edileceği su kaynağı belirlenmeli ve ilgili idareden gerekli izin belgesi alınarak rapora eklenmelidir.

ÇED başvuru dosyasında kullanma suyunun şebekeye en yakın noktadan ücreti mukabilinde tankerlerle proje alanına getirileceği ifade dilmektedir. Su temininin yetkili idare (Belediye, İl Özel İdaresi, DSI) tarafından yapılması gerekmektedir. Tanker ile su satışı yapan firmalardan satın alınması durumunda, firma belediye tarafından yetkilendirilmiş olmalı ve firmanın belediye tarafından yetkilendirildiğine dair belge rapora eklenmelidir.

Genel Hususlar:

Katı ve sıvı atıkların bertarafına ilişkin bilgi verilmelidir. Fosseptik hacmi belirlenmeli ve vaziyet planında fosseptik yeri gösterilmelidir. Ayrıca güneş panelleri, elektrik panosu, şalt, trafo vb. elektrik altyapı birimleri ile idari ve barınma amaçlı yapılar vaziyet planında gösterilmelidir.

2872 Sayılı Çevre Kanunu, Su Kirliliği ve Kontrolü Yönetmeliği, Yerüstü Su Kalitesi Yönetimi Yönetmeliği, Atık Yönetimi Yönetmeliği ve ilgili diğer güncel mevzuat hükümlerine uyulmalıdır.

Sonuç olarak, yukarıda belirtilen taahhütlerin, uyulması istenilen hususların ve gerekli bilgilerin ÇED raporunda yer alması durumunda projeye ilişkin nihai değerlendirme Kuruluşumuzca yapılacaktır.

Bilgilerinizi ve gereğini arz/rica ederim.

Cengiz Han KILIÇASLAN
Genel Müdür a.
Genel Müdür Yardımcısı

Ek: Uydu Görüntüsü

Dağıtım:

Gereği:

Çevresel Etki Değerlendirmesi, İzin ve Denetim
Genel Müdürlüğüne

Bilgi:

DSİ 9. BÖLGE MÜDÜRLÜĞÜNE

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 10154962-4B4F-4EDD-B3EE-75EF32491D2F
Adres: Mustafa Kemal Mahallesi Anadolu Bulvarı No:9 PK: 06530
Çankaya/ANKARA
Telefon No : Belgegeçer No :
KEP Adresi : dsi.gnlmud@hs01.kep.tr

Doğrulama Adresi: <https://www.turkiye.gov.tr/devlet-su-isleri-ebys>

Bilgi için:Dilek GÜLER
Biyolog
Telefon No:(312) 454 57 98





T.C.
ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
TABİAT VARLIKLARINI KORUMA GENEL MÜDÜRLÜĞÜ



Sayı : E-97749335-622.01-8904443

28.02.2024

Konu : Ümraniye Belediyesi Güneş Enerji Santrali
(GES)(15,152 MWm/ 11,221 MWe/ 15,152
MWp- 16,52 ha) Projesi

ÇEVRESEL ETKİ DEĞERLENDİRMESİ, İZİN VE DENETİM GENEL MÜDÜRLÜĞÜNE

İlgi : a) 06.02.2024 tarihli ve 8696933 sayılı yazınız.
b) Elazığ Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü (Tabiat Varlıklarını Koruma İşlerinden Sorumlu Şube Müdürlüğü)'nün 16.02.2024 tarihli ve E-30269562-622.01-8802192 sayılı yazısı.

İlgi (a) yazı ile; Elazığ İli, Maden İlçesi, Camikebir Köyü, 626 Ada, 10 Parselde Ümraniye Belediye Başkanlığı tarafından yapılması planlanan Ümraniye Belediyesi Güneş Enerji Santrali (GES) (15,152 MWm/ 11,221 MWe/ 15,152 MWp- 16,52 ha) projesinin ÇED Yönetmeliği EK-III' de yer alan ÇED Genel Formatı çerçevesince hazırlandığı ve Bakanlığımıza sunulan dosya ile ilgili ÇED Yönetmeliği'nin 8. maddesi gereğince ÇED sürecinin başlatıldığı belirtilerek ÇED Yönetmeliği'nin 9. maddesi gereğince ÇED sürecine halkın katılımını sağlamak, halkı proje hakkında bilgilendirmek, görüş ve önerilerini almak amacıyla Halkın Katılımı Toplantısının Valilikçe (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) düzenleneceğinden bahisle, ÇED Başvuru Dosyası hakkındaki görüşümüzün Bakanlığımız Çevresel Etki Değerlendirmesi, İzin ve Denetim Genel Müdürlüğüne iletilmesi talep edilmektedir.

Bu itibarla; söz konusu projeyle ilgili olarak İlgi (b) yazıda, 2863 sayılı Kültür ve Tabiat Varlıklarını Koruma Kanunu ve ilgili mevzuatı bakımından yapılan inceleme ve değerlendirme sonucunda proje alanında herhangi bir tescilli tabiat varlığı, doğal sit alanının bulunmadığı belirtilmekte olup, söz konusu proje alanında yapılacak çalışmalar sırasında herhangi bir korunması gerekli tabiat varlığı unsuruna (tescile aday olabilecek anıt ağaç, mağara vb.) rastlanması halinde 2863 sayılı Kanunun 4. maddesi gereği müdahalede bulunulmadan ilgili Valiliğe (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) bilgi verilmesi gerekmektedir.

Bilgilerinize ve gereğini arz ederim.

Dr. Beyhan OKTAR
Genel Müdür a.
Genel Müdür Yardımcısı V.

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 0D054EA7-7E8E-421D-9E5D-6BAB11C32977

Doğrulama Adresi: <https://www.turkiye.gov.tr>

Mustafa Kemal Mahallesi Eskişehir Devlet Yolu (Dumlupınar Bulvarı) 9. km

Bilgi için: Gizem GÖKSİDAN

Çankaya/ANKARA

Jeoloji Mühendisi

KEP Adresi : cevreseshircilikbakanligi@ts01.kep.tr



Annex C – Title Deed

BU BELGE TOPLAM 2 SAYFADAN OLUŞMAKTADIR BİLGİ AMAÇLIDIR.



Tarih: 18-7-2023-15:23



Kayıt Oluşturan: SEYFULLAH AYBAL (Ümraniye Belediye Başkanlığı)

Tapu Kaydı (Aktif Malikler için Detaylı - ŞBİ var)

TAPU KAYIT BİLGİSİ

Zemin Tipi:	Ana Taşınmaz	Ada/Parsel:	626/10
Taşınmaz Kimlik No:	31995893	AT Yüzölçümü(m2):	883302.79
İl/İlçe:	ELAZIĞ/MADEN	Bağımsız Bölüm Nitelik:	
Kurum Adı:	Maden	Bağımsız Bölüm Brüt Yüzölçümü:	
Mahalle/Köy Adı:	CAMİLKEBİR Mah.	Bağımsız Bölüm Net Yüzölçümü:	
Mevki:	-	Blok/Kat/Giriş/BBNo:	
Cilt/Sayfa No:	10/929	Arsa Pay/Payda:	
Kayıt Durum:	Aktif	Ana Taşınmaz Nitelik:	HALI ARAZI

MÜLKİYET BİLGİLERİ

(Hisse) Sistem No	Malik	El Birliği No	Hisse Pay/Payda	Metrekare	Toplam Metrekare	Edinme Sebebi-Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
75383645	(SN-47) MALİYE HAZİNESİ VKN:6110312806	-	1/1	883302.79	883302.79	Tesis Kadastro 03-09-1992 0	-

Bu belgeyi akıllı telefonunuzdan karekod tarama programları ile aşağıdaki barkodu taratarak;



T.C.
ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ BAKANLIĞI
MİLLİ EMLAK GENEL MÜDÜRLÜĞÜ

Sayı : E-40223418-400[3129.25149]-6887050
Konu : Elazığ / Maden / Camiikebir Mah. 626 ada,
10 parsel – Ümraniye Belediye Başkanlığı
–Lisanssız Yenilenebilir Enerji - İrtifak
Hakkı

14.07.2023

ELAZIĞ VALİLİĞİNE
(Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü)

İlgi : a) 81 İl Valiliğine (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) yazılan 24/05/2023 tarihli ve 6470405 sayılı yazımız.
b) 31/05/2023 tarihli ve 6607580 kayıt numaralı yazı.
c) 20/06/2023 tarihli ve 6731273 sayılı yazımız.

Ümraniye Belediye Başkanlığı tarafından Bakanlığımıza gönderilen ilgi (b) yazıda özetle; Elektrik Piyasasında Lisanssız Elektrik Üretim Yönetmeliği çerçevesinde güneş enerji santrali yapımının planlandığı ve enerji harcamalarının yenilenebilir enerji kaynaklarından karşılanmasının hedeflendiği ancak İstanbul İl sınırları içerisinde projeye uygun alan bulunmaması gerekçesiyle, Elazığ İli, Maden İlçesi, Camiikebir Mahallesi'nde bulunan 626 ada, 10 parsel numaralı ve 883.302,79 m² yüzölçümlü taşınmazın ekli krokisinde belirtilen kısmı üzerinde yenilenebilir enerji kaynaklarına dayalı lisanssız elektrik üretimi yapılması amacıyla Belediyeleri adına irtifak hakkı tesisi talep edilmektedir.

Konu hakkında Valiliğinizden (Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü) alınan ilgi (c) yazı ve ekleri ile Bakanlık işlem dosyasında yapılan incelemede;

-Söz konusu taşınmazın imarsız olduğu, talebe konu olan alanın ekli krokide belirtildiği,

-20/06/2023 tarihli Tahmin Edilen Bedel Tespit Raporunda söz konusu taşınmaza günün alım satım rayiçlerine göre m²'si 80,00 TL'nin yüzde biri (% 1) alınarak ekli krokide belirtilen alan üzerinden irtifak hakkı bedelinin hesaplanacağı,

-Söz konusu talebe ilişkin olarak Elazığ Orman İşletme Müdürlüğü ile Elazığ İl Tarım ve Orman Müdürlüğü'nün görüş yazılarının henüz Elazığ Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğüne ulaşmadığının belirtildiği,

-Maden Kaymakamlığınca (Milli Emlak Şefliği) söz konusu taşınmaz üzerinde irtifak hakkı tesis edilmesinde herhangi bir sakınca bulunmadığının belirtildiği,

Anlaşılmıştır.

Öte yandan, 2018/11 sayılı İç Genelge ile Kamu Kurum ve Kuruluşlarının Taşınmazları ile İlgili Yapılacak İşlemler Hakkında 2012/15 sayılı Başbakanlık Genelgesinin uygulaması sürecinde Mülga Başbakanlıkça uygun görülen muafiyetlere yönelik izinler ile Cumhurbaşkanlığı Karar ve Karamamelerine konu işlemler ve kamu kurum ve kuruluşları ile bağlı, ilgili ve ilişkili kamu kurum ve kuruluşları adına yapılacak işlemlerin 2018/11 sayılı Genelgeden muaf tutulduğu bildirilmiştir.

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 6E6176CA-6B43-4D7B-98F0-49BF28FBC21E
KEP Adresi : çevrevesehirclikbakanligi@hs01.kep.tr

Doğrulama Adresi: <https://www.turkiye.gov.tr>

Bilgi için:Eser POLAT
Çevre ve Şehircilik Uzmanı,



Bilindiği üzere; 412 sıra sayılı Milli Emlak Genel Tebliğinin İhale Bedeli ve Usulü başlıklı 10'uncu maddesinin 4'üncü fıkrasında "Kendilerine verilen görevlerin yerine getirilmesi sırasında ihtiyaç duyulan elektrik enerjisinin temini amacıyla; 10/12/2003 tarihli ve 5018 sayılı Kamu Mali Yönetimi ve Kontrol Kanununa göre genel yönetim kapsamındaki kamu idarelerine, (Ek ibare:RG-5/11/2022-32004) özel kamunlarla kurulmuş tüzel kişiliğe sahip kurum ve kuruluşlara, sermayesinin yüzde ellisinden fazlası Türkiye Varlık Fonu veya Hazineye ait kurum ve kuruluşlara, Kanunun 17 nci maddesine göre ilan yapılmaksızın doğrudan irtifak hakkı tesis edilebilir veya kullanma izni verilebilir." hükmüne yer verilmektedir.

Buna göre; Hazine Taşınmazlarının İdaresi Hakkında Yönetmelik, 412 sıra Sayılı Milli Emlak Genel Tebliğinin ilgili hükümleri dikkate alınarak;

1-) İliniz, Maden İlçesi, Camiikebir Mahallesinde bulunan 626 ada 10 parsel numaralı ve 883.302,79 m² yüzölçümlü taşınmazın ekli krokisinde belirtilen kısmı üzerinde yenilenebilir enerji kaynaklarına dayalı lisanssız elektrik üretimi amacıyla ekli krokide belirtilen alan üzerinden m² satış bedeli 80 TL'nin yüzde biri hesaplanarak belirlenecek tahmini irtifak hakkı bedeli üzerinden 29 yıl süreli bağımsız ve sürekli nitelikte olmayan irtifak hakkına esas olmak üzere 2886 sayılı Devlet İhale Kanununun 51 inci maddesinin (g) bendi uyarınca pazarlık usulü (ilansız) ile irtifak hakkı ihalesinin yapılması,

2-) İleride lehine irtifak hakkı tesis edilecek Belediye Başkanlığına 412 sıra sayılı Milli Emlak Genel Tebliğinin 11 inci maddesinde belirtilen taşınmazın bulunduğu yere ilişkin ilgili şebeke işletmecisinden bağlantı anlaşmasına çağrı mektubunun alınması, teknik değerlendirme raporunun düzenlenmesi, taşınmazların tescil, ifraz, imar, tevhit, terk, ilgili kurum görüşlerinin (İl Tarım ve Orman Müdürlüğü, Enerji İşleri Genel Müdürlüğü vb.) alınması ve benzeri işlemlerinin yapılması için 1 (bir) yıl süreli ön izin verilmesi, adına ön izin verilecek olan gerçek veya tüzel kişi tarafından yükümlülüklerin yerine getirilmesi halinde ise İrtifak Hakkına İlişkin Resmi Senede Yazılacak Hükümleri içerecek şekilde resmi senet düzenlenmesi,

3-) Ön izin süresi içerisinde Hazine Taşınmazlarının İdaresi Hakkında Yönetmelik ile 324 ve 412 sıra sayılı Milli Emlak Genel Tebliğinin ilgili hükümleri dikkate alınarak, 5403 sayılı Toprak Koruma ve Arazi Kullanımı Kanununun 13 üncü ve 14 üncü maddeleri gereğince İl Tarım ve Orman Müdürlüğünün uygun görüşünün alınması,

4-) Yapılacak irtifak hakkı ihalesine ilişkin "İlan Metni, İrtifak Hakkı Şartnamesi, Ön İzin Sözleşmesi ve İrtifak Hakkına İlişkin Resmi Senede Yazılacak Hükümleri içerecek şekilde resmi senedin düzenlenmesi,

Bakanlık Makamının 14/07/2023 tarihli ve 6886351 sayılı Olurları ile uygun görülmüştür.

Bilgilerini, gereğini ve yapılan işlemlerin sonucundan bilgi verilmesini rica ederim.

Hasan Fehmi BOZKURT

Bakan a.

Daire Başkanı

Ek: Talep edilen alana ilişkin kroki. (1 Sayfa)

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: 6E6176CA-6B43-4D7B-98F0-49B828FBC21E Doğrulama Adresi: <https://www.turkiye.gov.tr>
KEP Adresi : cevreseshircilikbakanligi@rs01.kep.tr Bilgi için:Eser POLAT
Çevre ve Şehircilik Uzmanı,



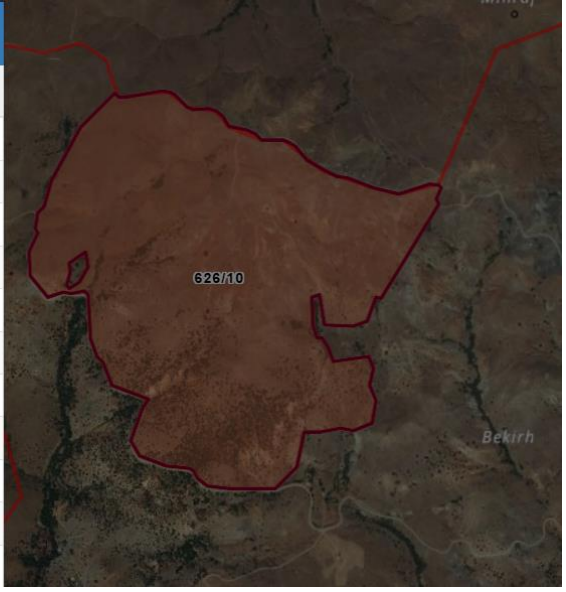
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[illegible]

Parcel Information

Öznitelik Bilgisi	
Öznitelik Bilgisi	Bina/BB Listesi
İl	Elazığ
İlçe	Maden
Mahalle/Köy	Camiikebir
Mahalle No	34119
Ada	626
Parsel	10
Tapu Alanı	883.302,79
Nitelik	Hali Arazi
Mevkii	-
Zemin Tip	Ana Taşınmaz
Pafta	-



ÖN İZİN SÖZLEŞMESİ

MADDE 1-

Ön izin verilen taşınmazın:

İli : Elazığ
İlçesi : Maden
Mahalle/Köyü : Camiikebir Mah.
Mevkii : -
Pafta No / Cilt No : - / -
Ada No / Sayfa No : 626 / -
Parsel No / Sıra No : 10 / -
Yüzölçümü : 883.302,79 m²
İrtifak Hakkına Konu
Edilecek Yüzölçümü : 171.777,18 m² (Krokisinde Gösterilen Alan)
Hazine Payı : Tam
Cinsi : Hali Arazi
Tapudaki şerhler : -
Sınırları : Paftasında gösterildiği şekildedir.
Niteliği :
Ön izin sahibinin :
Adı-Soyadı, Unvanı : Ümraniye Belediye Başkanlığı
T.C. Kimlik No /
Vergi Kimlik No :
Telefon Numarası :
Adresi :

MADDE 2- Yukarıda tapu kaydı, niteliği ve diğer özellikleri belirtilen taşınmazın üzerinde Yenilenebilir enerji kaynaklarına dayalı lisansız elektrik üretimi tesisleri yapılmak üzere ve **(Ek ibare:RG-11/9/2014-29116)** fiili kullanım olmaksızın; öncelikle taşınmazın tescil, ifraz, tevhit, terk ve benzeri işlemlerin yapılması ve/veya imar planının yaptırılması, değiştirilmesi, uygulama projelerinin hazırlanması ve onaylanması amacıyla ön izin verilmiştir.

MADDE 3- (Değişik:RG-11/9/2014-29116)

Ön izin süresi bir yıldır. Ön izin döneminde süre dondurulmaz.

MADDE 4- (Değişik:RG-11/9/2014-29116)

Ön izin bedeli, ihale bedelinin *(Zuhre... TL)*; yüzde yirmisi oranındaki bedel olan *(... TL)* dir. Ön izin bedeli peşin olarak ödenir.

Ön izin süresinin 3 üncü maddede belirtilen şekilde idarece uzatılması halinde ön izin bedeli; ikinci yıl için ihale bedelinin yüzde yirmisi, üçüncü yıl için yüzde otuzu, dördüncü yıl için yüzde kırkı olarak belirlenir. Uzatılan sürelerde bu şekilde belirlenen ön izin bedelleri; ikinci, üçüncü ve dördüncü yıllar için ihale bedelinin Yönetmeliğin 14 üncü maddesi uyarınca artırılması sonucu oluşacak bedel üzerinden hesaplanır. Fiili kullanım olması halinde bu alana isabet eden ön izin bedeli, irtifak hakkı veya kullanma izni ihale bedelidir.

MADDE 5- Ön izin süresi içerisinde taşınmazın tescil, ifraz, tevhit, terk ve benzeri işlemlerin yapılmaması ve/veya imar planının yaptırılmaması, değiştirilmemesi, uygulama projelerinin hazırlanmaması ve onaylanmaması hâlinde ön izin bedeli iade edilmeyecek ve hak sahibince Hazine'den herhangi bir hak ve tazminat talebinde bulunulmayacaktır.

MADDE 6- İhale sonucunda, ön izin verilen kişinin bu süre içerisinde yükümlülüklerini yerine getirmesi hâlinde, Hazine Taşınmazlarının İdaresi Hakkında Yönetmeliğin 12 nci maddesi uyarınca tespit edilen yıllık bedel karşılığında, Hazinenin özel mülkiyetindeki

taşınmazlar üzerinde 22/12/2001 tarihli ve 4721 sayılı Türk Medeni Kanunun 779 uncu ve izleyen maddeleri uyarınca irtifak hakkı tesis edilecek ve/veya Devletin hüküm ve tasarrufu altındaki yerler üzerinde kullanma izni verilecektir. **(Ek cümle:RG-11/9/2014-29116)** İdarece; taşınmaza ihtiyaç duyulan veya taşınmazın ekonomik açıdan farklı şekilde değerlendirilmesi uygun görülen hallerde, ön izin süresi uzatılmaz, devam eden ön izinler ise varsa kalan süreye ilişkin bedelin geri ödenmesi kaydıyla iptal edilir. Bu durumda ön izin sahibi tarafından idareden hiçbir hak ve tazminat talebinde bulunulamaz.

MADDE 7- Sözleşme ile ilgili bütün vergi, resim, harç ve katkı payları ve diğer giderler ön izin sahibine aittir.

MADDE 8-(Değişik:RG-11/9/2014-29116)

Ön izin sözleşmesi ve hakkı devredilemez ve bu sözleşmeye ortak alınamaz. Ön izin sahibinin şirket olması halinde ön izin süresi içerisinde şirket hisseleri devredilemez ve ortak alınamaz.

MADDE 9- Bu sözleşmede belirtilen yükümlülükler uyulmadığının tespit edilmesi hâlinde, protesto çekmeye ve hüküm almaya gerek olmaksızın ön izin iptal edilir. Bu durumda, ön izin bedeli iade edilmez.

Ancak, ön izin sahibinin kusuru dışında, ön izin süresi içinde ön izin yükümlülüklerinin yerine getirilmesinin mümkün olmayacağının anlaşılması hâlinde, idareye yapılacak başvuru üzerine sözleşme feshedilir ve teminat ile kalan süreye ilişkin ön izin bedeli iade edilir.

MADDE 10- İhtilafların çözüm yeri Elazığ icra daireleri ve mahkemelerdir.

MADDE 11- Bu sözleşmede hüküm bulunmayan hallerde, 8/9/1983 tarihli ve 2886 sayılı Devlet İhale Kanunu ile Hazine Taşınmazlarının İdaresi Hakkında Yönetmelik hükümleri ile diğer mevzuat hükümleri uygulanır.

MADDE 12-

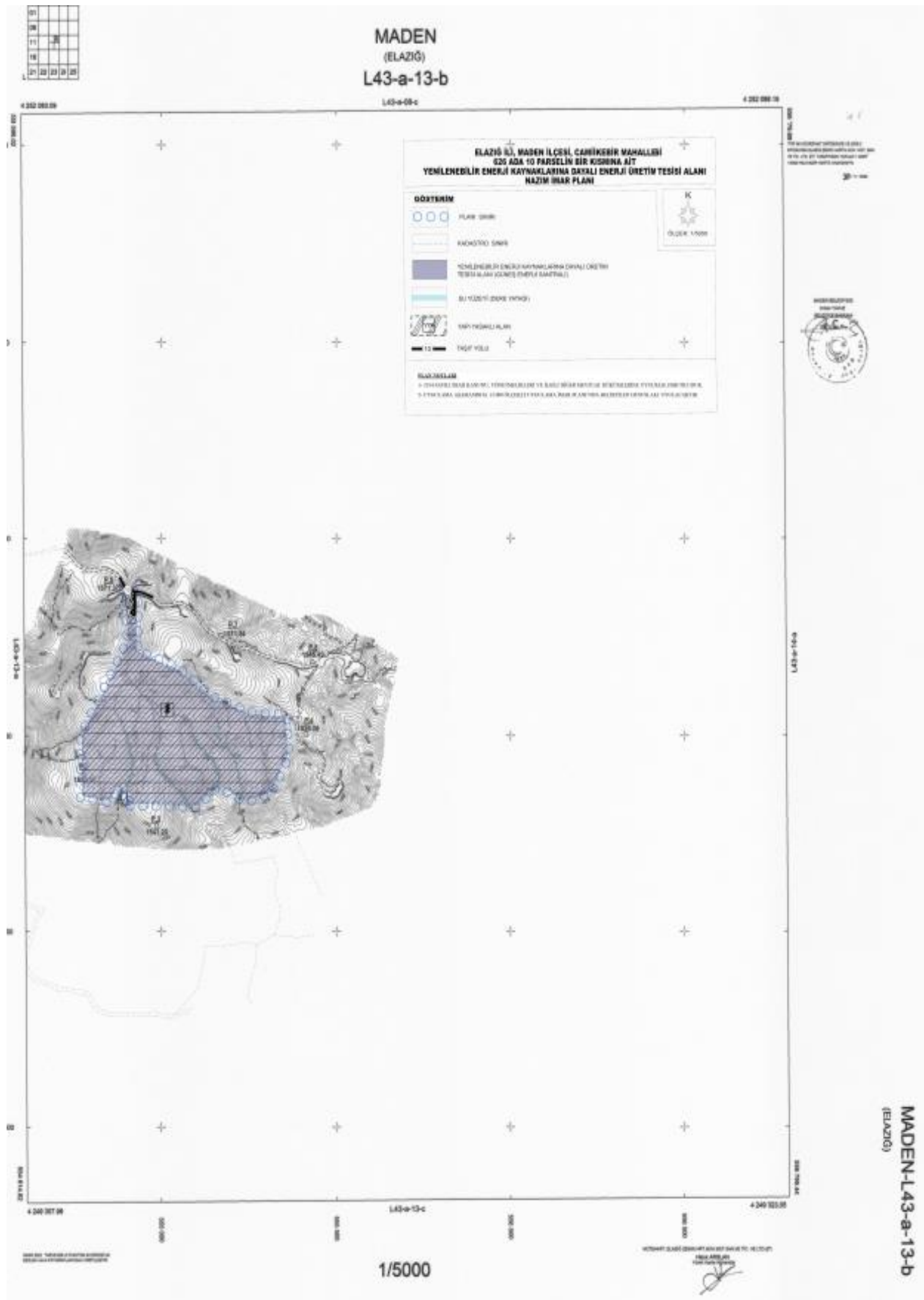
TARAFLAR
25/06/2024

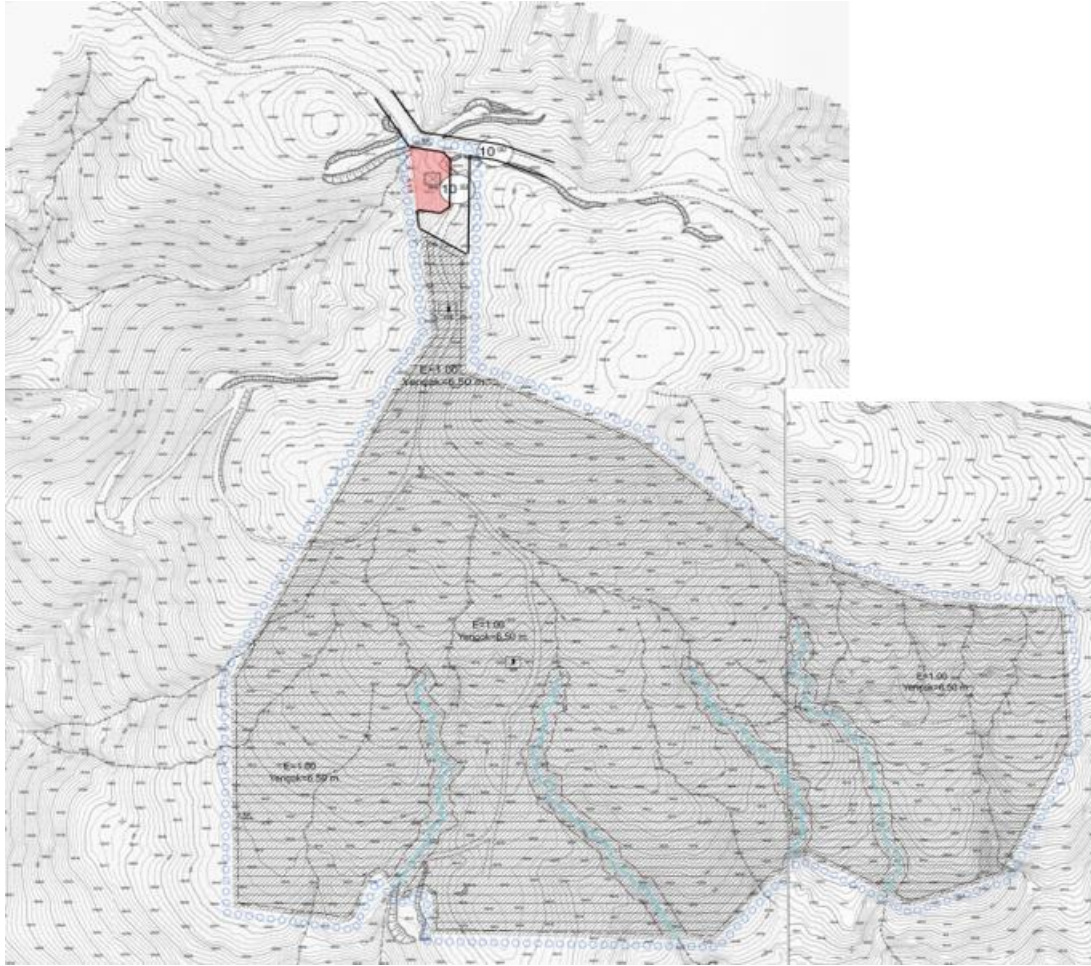
İTA AMİRİ
Mustafa ATİŞ
Maden Kaymakamı

ÖN İZİN SAHİBİ
Ümraniye Belediye Başkanlığı

Mustafa İslak
Ümraniye Belediye Başkanı
YED.

Zoning plan





**ELAZIĞ İLİ, MADEN İLÇESİ, CAMİİKEBİR MAHALLESİ
626 ADA 10 PARSELİN BİR KISMINA AİT
YENİLENEBİLİR ENERJİ KAYNAKLARINA DAYALI ENERJİ ÜRETİM TESİSİ ALANI
UYGULAMA İMAR PLANI**

GÖSTERİM

- | | |
|--|--|
| | PLANI SINIRI |
| | KADASTRO SINIRI |
| | YAPI YAKLAŞMA SINIRI |
| | YENİLENEBİLİR ENERJİ KAYNAKLARINA DAYALI ÜRETİM TESİSİ ALANI (GÜNEŞ ENERJİ SANTRALİ) |
| | SU YÜZEYİ (DERE YATAĞI) |
| | SAĞLIK KORUMA BANDI |
| | TAŞIT YOLU |

K

ÖLÇEK: 1/1000

T.C.
MADEN BELEDİYESİ
Fen İşleri Müdürlüğü

Konu: Askıya çıkan imar planının kesinleşmesi

Elazığ İli Maden İlçesi, Camiikebir Mahallesi'nde yer alan 626 ada 10 Parcele ait Yenilenebilir Enerji Kaynaklarına Dayalı Enerji Üretim Alanı (GES) amaçlı hazırlanan 1/5000 ölçekli Nazım İmar Planı ve 1/1000 ölçekli Uygulama İmar Planı, Maden Belediye Meclisi'nin 05.08.2024 tarih ve 23 sayılı kararı ile uygun görülmüştür. Onaylanan 1/5000 ölçekli Nazım İmar Planı ve 1/1000 ölçekli Uygulama İmar Planı Belediye Başkanlığımızca 06.08.2024 tarih ve 05.09.2024 tarih mesai bitimine kadar 1 ay süre ile askıya çıkarılmıştır. Askı süreci içerisinde plana itiraz olmadığından, plan kesinleşmiştir.


Onur GÜRGÜN
Fen İşleri Müdür V.

İLAN TUTANAĞI

Maden Belediye Başkanlığının 05.09.2024 tarih ve 05.09.2024 Meclis Karar (23) yazısı gereği " Askı Listeleri İlanı" .

Hakkındaki 05.09.2024 tarih ve 05.09.2024 Meclis Karar (23) yazının eklerinin ilan edildiğini gösterir tutanaştır.

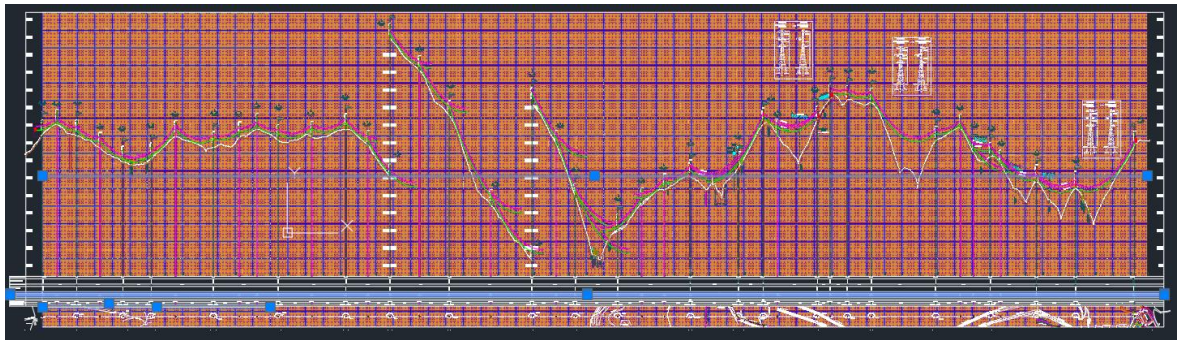
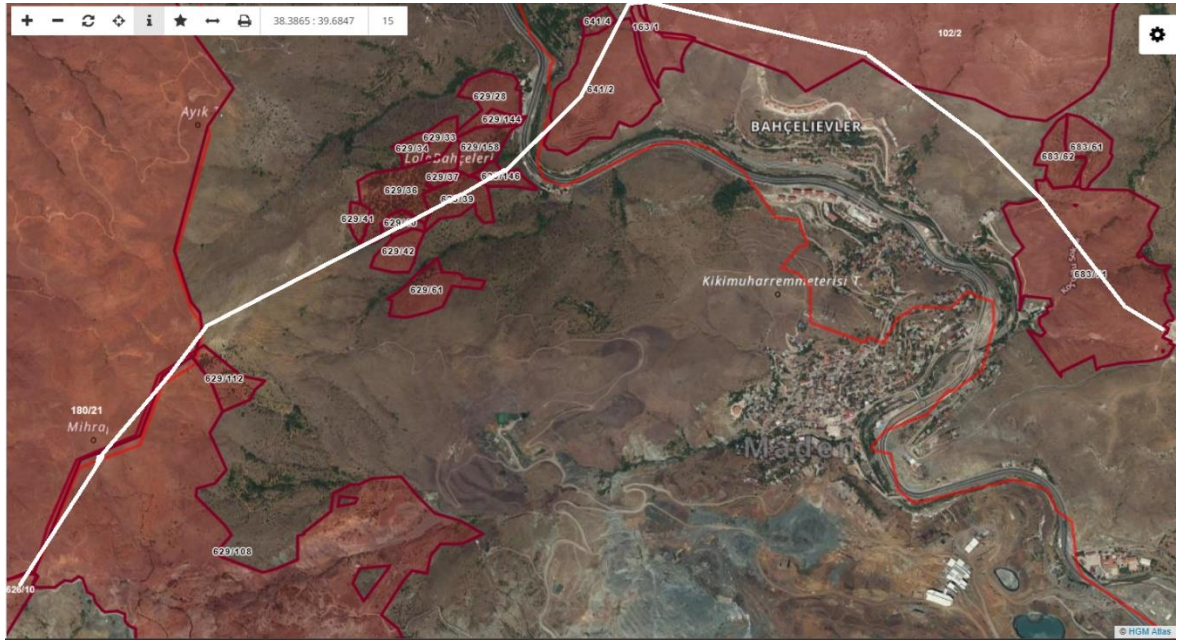
06 09 2024

1 – İlan Tarihi : 06.08.2024 ve 05.09.2024 Tarihleri arası 30 gün ilan edilmiştir.

05.09.2024 tarih ve 05.09.2024- Meclis Karar (23) yazı, Belediyemiz hoparlörü vasıtası ile ve Belediye ilan tahtasına asıldığına dair ilan edilmiştir. Riyaset makamına saygı ile sunulur.


Zabıta Memuru
Sertaç ERCAN

ETL Route Plan, kml. File and Official Institution Permission Letters



UMRANIYE_BELEDIYE
SI.kml

ETL's establishment of easement rights by TEDAŞ and expropriation decision

TÜRKİYE ELEKTRİK DAĞITIM A.Ş. YÖNETİM KURULU	TOPLANTI Tarih: 22.07.2025 No: 69-1324
KONU: Kamulaştırma Kararı (Elazığ-6+408,86 km)	
Varlık Yönetimi Dairesi Başkanlığının 21.07.2025 tarih, 1382773 sayılı teklifinde belirtilen esaslar dahilinde;	
KARAR	
6446 sayılı Elektrik Piyasası Kanunu'nun "Taşınmaz Temini İşlemleri" başlıklı 19'uncu maddesinin 2/a fıkrasında yer alan "...dağıtım faaliyetinde bulunan lisans sahibi özel hukuk tüzel kişilerinin lisansa konu faaliyetlerine ilişkin taşınmaz temini taleplerine yönelik işlemler, 2942 sayılı Kanun ve ilgili mevzuat hükümlerine göre TEDAŞ tarafından yürütülür. Taşınmaz temini talepleri TEDAŞ tarafından değerlendirilir ve uygun görülmesi halinde TEDAŞ tarafından karar alınır. Bu kapsamda alınan kararlar, kamu yararı kararı yerine de geçer ve herhangi bir makamın onayına tabi değildir..." hükmü gereğince; Fırat Elektrik Dağıtım A.Ş.'nin faaliyetleri kapsamında bulunan, Elazığ ili sınırları içerisindeki 6+408,86 km uzunluğundaki Ümraniye Belediyesi GES DM-Maden Toplama DM-Maden TM Enerji Nakil Hattı güzergâhına isabet eden taşınmazlardan toplam 1070,03 m²'lik sahanın mülkiyetinin tescil edilebilmesi ve hat emniyet sahası içinde kalan toplam 126839,23 m²'lik saha üzerinde irtifak hakkı tesis edilebilmesi için 6446 sayılı Elektrik Piyasası Kanunu'nun 19'uncu maddesinin 2/a fıkrası gereğince, 2942 sayılı Kanun ve ilgili mevzuat hükümleri uyarınca taşınmaz temini işlemlerinin gerçekleştirilmesine, bu hususlardaki gerekli işlemlerin Genel Müdürlükçe ikmaline oybirliği ile karar verildi.	
Ömer Sami YAPICI BAŞKAN GENEL MÜDÜR	Abdullah Buğrahan KARAVELİ ÜYE
Ahmet ÖZKAYA ÜYE	Zübeyir ÇALIŞAN ÜYE
Emek GÜNAYDIN ÜYE	
ASLINA UYGUNDUR	
	
1070 sayılı elektronik imza kanunu gereği bu belge elektronik imza ile imzalanmıştır. Referans Numarası: NVH244YCG5 Doğrulama Adresi: https://mds.mkk.com.tr/registration?id=NVH244YCG5	

Letters Regarding Changes in Allocation Purpose of Pasture and Forest Lands on the ETL Route



T.C.
ÜMRANİYE BELEDİYE BAŞKANLIĞI
İklim Değişikliği ve Sıfır Atık Müdürlüğü



TÜRKİYE
YUZYILI



Sayı : E-87992888-622.03-138703
Konu : Tahsis Amacı Değişiklik

23.01.2025

ELAZIĞ İL TARIM VE ORMAN MÜDÜRLÜĞÜNE

Belediyemiz tarafından Maden İlçesi, Camiikebir Mevkii 626 ada 10 Parsel adresinde yapılması planlanan Güneş Enerji Santrali (GES) Projesi'ne ait Fırat Elektrik Dağıtım A.Ş. tarafından Maden İlçesi Şalt Merkezine bağlantı izni verilmiş olup enerji nakli direkleri ve havai hatlar ile yapılacaktır. Söz konusu enerji nakil hattının (ENH) geçeceği güzergahtaki yazımız ekinde bahsi geçen ada ve parselleri belirtilmiş, nitelikleri mera ve orman geçen alanlar için tahsis amacı ile değişiklik yapılması hususunda;

Gereğini bilgilerinize rica ederim.

Süleyman Emin KAPLAN
Belediye Başkanı V.

Ek:

- 1 - ENH (.ncz formatı)
- 2 - ENH (.dwg formatı)
- 3 - KML Dosyası
- 4 - Direk Noktaları Ada/parsel

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 07D2BF0A-21B7-4548-8003-8B2B906124A1 Doğrulama Adresi: <https://www.turkiye.gov.tr/umraniye-belediyesi-ebys>

Atatürk Mah. Fatih Sultan Mehmet Cad. No:63 Ümraniye / İSTANBUL

Telefon: 0216 443 56 00 Faks: 0216 335 32 76

www.umraniye.bel.tr / KEP:umraniyebeldiyesi@hs01.kep.tr

KEP Adresi : umraniyebeldiyesi@hs01.kep.tr

Bilgi için: Yusuf Bahadırhan
KÖSEÖĞLU

Mühendis
Telefon No:(216) 443 56 00-
1630





T.C.
ÜMRANIYE BELEDİYE BAŞKANLIĞI
İklim Değişikliği ve Sıfır Atık Müdürlüğü



Sayı : E-87992888-622.03-138705
Konu : Tahsis Amacı Değişiklik

23.01.2025

ELAZIĞ ÇEVRE, ŞEHİRCİLİK VE İKLİM DEĞİŞİKLİĞİ İL MÜDÜRLÜĞÜNE
(Milli Emlak Müdürlüğü)

Belediyemiz tarafından Maden İlçesi, Camiikebir Mevkii 626 ada 10 Parsel adresinde yapılması planlanan Güneş Enerji Santrali (GES) Projesi'ne ait Fırat Elektrik Dağıtım A.Ş. tarafından Maden İlçesi Şalt Merkezine bağlantı izni verilmiş olup enerji nakli direkleri ve havai hatlar ile yapılacaktır. Söz konusu enerji nakil hattının (ENH) geçeceği güzergahtaki yazımız ekinde bahsi geçen ada ve parselleri belirtilen, nitelikleri hazine arazisi ve tescil dışı alanlar için tahsis amacı ile değişiklik yapılması hususunda; Gereğini bilgilerinize rica ederim.

Süleyman Emin KAPLAN
Belediye Başkanı V.

Ek:

- 1 - ENH (.ncz formatı)
- 2 - ENH (.dwg formatı)
- 3 - ENH KML Dosyası
- 4 - Direk Noktaları Ada/Parsel

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Doğrulama Kodu: 4501D273-298D-4095-BE49-F8177696604A Doğrulama Adresi: <https://www.turkiye.gov.tr/umraniye-belediyesi-ebys>
Atatürk Mah. Fatih Sultan Mehmet Cad. No:63 Ümraniye / İSTANBUL Bilgi için: Yusuf Bahadırhan
Telefon: 0216 443 56 00 Faks: 0216 335 32 76 KÖSEOĞLU
www.umraniye.bel.tr / KEP:umraniyebeldiyesi@hs01.kep.tr Mühendis
KEP Adresi : umraniyebeldiyesi@hs01.kep.tr Telefon No:(216) 443 56 00-
1630



Annex D – Site Photographs

Photo No: 01	
Date: 16/01/2025	
Location: Lot 518 of block 110	
Details/Notes:	
Photo No: 02	
Date: 16/01/2025	
Location: Lot 518 of block 110	
Details/Notes:	
Photo No: 03	
Date: 16/01/2025	

	
Location: Lot 10 of block 626	
Details/Notes:	
Photo No: 04	
Date: 16/01/2025	
Location: Lot 10 of block 626	
Details/Notes:	

Annex E – Baseline Measurements

Twelve-hour noise measurements were conducted between April 24, 2025, and April 25, 2025, at a single location in front of the Maden Municipality Building in the Camikebir neighborhood. The measurement location was determined considering wind effects, ambient noise, the location of construction activities, and the immediate surroundings in terms of sensitive receptors. For measurements conducted within the scope of the project, the preferred measurement location for the device was 1 m from any reflective surface and at least 1.5 m from significant sound transmission elements.

Noise Measurement Results

Standards	Duration	Noise Limit Values (Leq dBA)	Measurement Results A- Belt Weight		
			Leq	L10	L50
National Environmental Noise Limit Values (Leq dBA)	Daytime (07:00- 19:00)	65	67.1	69.2	64.6
	Evening (19:00- 23:00)	60	66.8	68.9	63.7
	Nighttime (23:00- 07:00)	55	53.9	55.2	50.8
WBG Noise Level Guidelines Limit Values (One-hour Leq- dBA)	Daytime (07:00 - 22:00)	55	67.1	69.2	64.6
	Nighttime (22:00- 07:00)	45	53.9	55.2	50.8

Annex F – E&S Incident Notification Form Template

1) Incident Details		
Date of Incident: [Please indicate]	Time of Incident: [Please indicate]	
Location of the Incident:	[Please indicate]	
Full Name of Sub-borrower:	[Please indicate]	
Date Reported to ILBANK: [Please indicate]	Reported to ILBANK by: [Please indicate]	Notification Type: [Please indicate; e-mail/phone call/media notice/other]
Date Reported to WB: [Please indicate]	Reported to WB by: [Please indicate]	Notification Type: [Please indicate; e-mail/phone call/media notice/other]
Full Name of the Contractor of the Subproject:	[Please indicate]	
Full Name of the Sub-contractor involved in the incident:	[Please indicate]	
2) Type of incident (please check all that apply) ²		
☐ Fatality ☐ Lost time injury ☐ Displacement without due process ☐ Child labor ☐ Forced labor ☐ Disease outbreaks	☐ Acts of violence/protest ☐ Unexpected impacts on heritage resources ☐ Unexpected impacts on biodiversity resources ☐ Environmental pollution incident ☐ Dam failure ☐ Other	
3) Description/Narrative of Incident		
<i>For example:</i> I. What is the incident? [Please briefly describe] II. What were the conditions or circumstances under which the incident occurred (if known)? [Please briefly describe] III. Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions? [Please briefly describe] IV. Is the incident still ongoing or is it contained? [Please briefly describe] V. Have any relevant authorities been informed? [Please briefly describe]		

² See Appendix 2 for definitions.

4) Actions taken to contain the incident

Short Description of Action	Responsible Party	Expected Date	Status

For incidents involving a Contractor:

Name of Contractor:

Have the works been suspended? Yes ☐ No ☐

Note: Please attach a copy of the instruction suspending the works

5) What support has been provided to affected people

[Please briefly describe]

APPENDICES

Appendix 1: Supporting documents

[Note: Please mark the relevant documents available at this stage and submit them attached to the report]:

- ☐ Copy of the social security registration records of the victims and involved persons
- ☐ Copy of the instruction suspending the works
- ☐ Statement of victims
- ☐ Statement of witnesses
- ☐ Copies of notifications done to the relevant authorities
- ☐ Copies of legal investigation reports of relevant authorities
- ☐ Copies of E&S training records of the affected and involved persons
- ☐ Copies of OHS training records of the affected and involved persons
- ☐ Photographs related to the incident
- ☐ Others

Appendix 2: Incident Types

The following are incident types to be reported using the environmental and social (E&S) incident response process:

Fatality: Death of a person(s) that occurs within one year of an accident/incident, including from occupational disease/illness (e.g., from exposure to chemicals/toxins).

Lost Time Injury: Injury or occupational disease/illness (e.g., from exposure to chemicals/toxins) that results in a worker requiring 3 or more days off work, or an injury or release of substance (e.g., chemicals/toxins) that results in a member of the community needing medical treatment.

Acts of Violence/Protest: Any intentional use of physical force, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, deprivation to workers or project beneficiaries, or negatively affects the safe operation of a project worksite.

Disease Outbreaks: The occurrence of a disease in excess of normal expectancy of number of cases. Disease may be communicable or may be the result of unknown etiology.

Displacement Without Due Process: The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.

Child Labor: An incident of child labor occurs: (i) when a child under the age of 14 (or a higher age for employment specified by national law) is employed or engaged in connection with a project, and/or (ii) when a child over the minimum age specified in (i) and under the age of 18 is employed or engaged in connection with a project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development.

Forced Labor: An incident of forced labor occurs when any work or service not voluntarily performed is exacted from an individual under threat of force or penalty in connection with a project, including any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This also includes incidents when trafficked persons are employed in connection with a project.

Unexpected Impacts on heritage resources: An impact that occurs to a legally protected and/or internationally recognized area of cultural heritage or archaeological value, including world heritage sites or nationally protected areas not foreseen or predicted as part of project design or the environmental or social assessment.

Unexpected impacts on biodiversity resources: An impact that occurs to a legally protected and/or internationally recognized area of high biodiversity value, to a Critical Habitat, or to a Critically Endangered or Endangered species (as listed in IUCN Red List of threatened species or equivalent national approaches) that was not foreseen or predicted as part of the project design or the environmental and social assessment. This includes poaching or trafficking of Critically Endangered or Endangered species.

Environmental pollution incident: Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hours or have resulted in harm to the environment.

Dam failure: A sudden, rapid, and uncontrolled release of impounded water or material through overtopping or breakthrough of dam structures.

Other: Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.

Annex G – E&S Incident Investigation Form Template

1) Investigation Findings						
<i>For example:</i> I. <i>where and when the incident took place,</i> II. <i>who was involved, and how many people/households were affected,</i> III. <i>what happened and what conditions and actions influenced the incident,</i> IV. <i>what were the expected working procedures and were they followed,</i> V. <i>did the organization or arrangement of the work influence the incident,</i> VI. <i>were there adequate training/competent persons for the job, and was necessary and suitable equipment available,</i> VII. <i>what were the underlying causes; where there any absent risk control measures or any system failures.</i>						
2) Corrective Actions from the investigation to be implemented (to be fully described in Corrective Action Plan)						
Action	Responsible Party			Expected Date		
3a) Fatality/Lost Time Injury Information						
Fatality ☐				Lost time injury ☐		
Immediate cause of fatality/injury for worker or member of the public (please check all that apply) ³: ☐ Caught in or between objects ☐ Struck by falling objects ☐ Stepping on, striking against, or struck by objects ☐ Drowning ☐ Chemical, biochemical, material exposure ☐ Falls, trips, slips ☐ Fire & explosion ☐ Electrocution ☐ Homicide ☐ Medical Issue ☐ Suicide ☐ Project Vehicle Work Travel ☐ Non-project Vehicle Work Travel ☐ Project Vehicle Commuting ☐ Non-project Vehicle Commuting ☐ Vehicle Traffic Accident (Members of Public Only) ☐ Other						
Name	Age/ Date of Birth	Nationality	Gender	Date of Fatality/ Injury	Cause of Fatality/ Injury	Affected Party (Employee/ Public)
			☐ Female ☐ Male			☐ Sub-borrower employee ☐ Contractor employee ☐ Sub-contractor employee ☐ Public

³ See Appendix 1 for definitions

3b) Financial Support/Compensation Types (to be fully described in Corrective Action Plan template – template is given in Appendix 3)

- | | |
|--|--|
| ☐ No Compensation Required | ☐ Contractor Insurance |
| ☐ Workman's Compensation/National Insurance | ☐ Other |
| ☐ Contractor Direct | ☐ Court Determined Judicial Process |

Name	Compensation Type	Compensation Amount (TRY)	Responsible Party

4) Supplementary Narrative

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Appendix 1: Definition of fatality/injury immediate causes

- 1. Caught in or between objects:** caught in an object; caught between a stationary object and moving object; caught between moving objects (except flying or falling objects).
- 2. Struck by falling objects:** slides and cave-ins (earth, rocks, stones, snow, etc.); collapse (buildings, walls, scaffolds, ladders, etc.); struck by falling objects during handling; struck by falling objects.
- 3. Stepping on, striking against, or struck by objects:** stepping on objects; striking against stationary objects (except impacts due to a previous fall); Striking against moving objects; Struck by moving objects (including flying fragments and particles) excluding falling objects.
- 4. Drowning:** respiratory impairment from submersion/emersion in liquid.
- 5. Chemical, biochemical, material exposure:** exposure to or contact with harmful substances or radiations.
- 6. Falls, trips, slips:** falls of persons from heights (e.g., trees, buildings, scaffolds, ladders, etc.) and into depths (e.g., wells, ditches, excavations, holes, etc.) or falls of persons on the same level.
- 7. Fire & explosion:** exposure to or contact with fires or explosions.
- 8. Electrocution:** exposure to or contact with electric current.
- 9. Homicide:** a killing of one human being by another.
- 10. Medical Issue:** a bodily disorder or chronic disease.
- 11. Suicide:** the act or an instance of taking, or attempting to take, one's own life voluntarily and intentionally.
- 12. Others:** any other cause that resulted in a fatality or injury to workers or members of the public.

Vehicle Traffic

- 13. Project Vehicle Work Travel:** traffic accidents in which project workers, using project vehicles, are involved during working hours and which occur in the course of paid work.
- 14. Non-project Vehicle Work Travel:** traffic accidents in which project workers, using non-project vehicles, are involved during working hours and which occur in the course of paid work.
- 15. Project Vehicle Commuting:** traffic accidents in which project workers, using project vehicles, are involved while travelling to (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
- 16. Non-project Vehicle Commuting:** traffic accidents in which project workers, using non-project vehicles, are involved while travelling to (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration.
- 17. Vehicle Traffic Accident (Members of Public Only):** traffic accidents in which non-project workers/members of the public are involved in an accident while travelling for any purpose.

Appendix 2: Supporting documents

[Note: Please mark the relevant documents available and submit them attached to the report]:

- ☐ Copy of the social security registration records of the victims and involved persons
- ☐ Copy of the instruction suspending the works
- ☐ Statement of victims
- ☐ Statement of witnesses
- ☐ Copies of notifications done to the relevant authorities
- ☐ Copies of legal investigation reports of relevant authorities
- ☐ Copies of E&S training records of the affected and involved persons
- ☐ Copies of OHS training records of the affected and involved persons (such as basic OHS training, induction training, visitors training, job-specific training, refreshment training, etc.)
- ☐ Photographs related to the incident
- ☐ Health examination records of the affected and involved employees
- ☐ Copies of Personal Protective Equipment delivery forms (signed copies)
- ☐ Root Cause Analysis completed for the incident
- ☐ Information/documentation related to any judicial process
- ☐ Others

Appendix 3: Corrective Action Plan template

Action No:	Brief Description of E&S non-compliance	Corrective Action	Financial and Human Resources Required	Responsible Party	Due Date for Completion of Corrective Action	Indicators for Successful Completion of Corrective Action	Status of Corrective Action

Annex H – Chance Find Procedure

Scope

This Chance Finds Procedure (CFP) will be implemented to manage any chance finds that may be encountered during construction activities on the Ümraniye Municipality SPP Project. The objectives of the CFP document are:

- Set out the applicable legislation and standards relevant to this procedure;
- Defining roles and responsibilities;
- Defining project commitments, operational procedures, training requirements and guidance on this procedure; and
- Defining monitoring and reporting procedures.

Although there are no known archaeological sites or remains in the sub-project area, it is considered that there is potential to encounter archaeological finds during construction of the project. Activities with a high potential to lead to the discovery or adverse impact of archaeological resources include:

- Topsoil stripping
- Soil excavation

This CFP has been prepared to inform contractors and workers of the actions to be taken in the event of an archaeological chance find discovery

Legislation and Standards

The legislation and standards applicable to the project consist of the following:

- WB Environmental and Social Standards (ESS8)
- Applicable Turkish laws and national standards
- Other commitments and requirements of the Turkish state authorities
- Other industry guidelines to which the project is committed to adhere

In Türkiye, movable and immovable cultural and natural assets are protected and preserved by the Law on the Protection of Cultural and Natural Assets (Law No. 2863) published in the Official Gazette dated 23.07.1983 and numbered 18113. Law No. 2863 determines legal protection for the following:

- All natural assets and immovable cultural assets built until the end of the 19th century,
- Any immovable cultural asset dated after the end of the 19th century and identified by the Ministry of Culture and Tourism as an important asset worthy of preservation,
- All immovable cultural assets located in archaeological sites,
- Buildings/areas that witnessed important historical events during the War of Independence and the establishment of the Republic of Türkiye, and houses used by Mustafa Kemal ATATÜRK, regardless of time and registration status.

The Ministry of Culture and Tourism is the body responsible for taking decisions for the protection of cultural heritage at national level in Türkiye. Within the Ministry, the High Council for the Protection of Cultural Assets is responsible for the protection and restoration of immovable cultural assets. The decisions and regulations issued by the Ministry are implemented by local authorities. At the local level, there are Regional Boards for the Protection of Cultural Assets, defined by the Ministry of Culture and Tourism, which are responsible for the protection, registration and classification of cultural heritage within their jurisdiction.

According to Law No. 2863, all natural and cultural assets that qualify for legal protection are the property of the state. Regional boards therefore have the power and authority to provide legal protection to protected areas and to approve or reject activities that may have potential negative impacts on protected areas, such as construction, demolition and excavation activities.

Duties and Responsibilities

The primary roles and responsibilities for the implementation of this procedure are outlined below.

Mission	Responsibilities
Contractor - Project Manager	• Overall responsibility for the development, review, approval and coordination of numerous activities required to initiate, execute and complete construction. • Ensuring that this procedure is prepared and updated as necessary according to the activities to be carried out under the project. • Ensure that sufficient resources are available to implement the procedures and guidelines outlined in this procedure.
Contractor - Environmental and Social Specialist	• Initiate, develop, implement and coordinate CFP during construction. • Ensure that all site personnel and subcontractors receive adequate training covering the procedures and guidelines set out in this procedure. Establish appropriate control procedures and conduct inspections as required. • Consulting with and reporting to relevant government bodies in the event of potential Chance Finds. • Record all confirmed chance Finds by completing the CFP Reporting Form" and keep copies in a logbook. Ensure that the chance finds logbook is functional and up to date.
Contractor - Field Manager	• Implement the provisions of the CFP on a daily basis on site during construction. • Inform the E&S Specialist about potential chance finds during construction.
Employees	• Understand and comply with archaeological CFP and the guidelines set out in these procedures. • Reporting potential chance finds to the field manager.

Impact Avoidance and Mitigation

In the event of an archaeological discovery, the following activities will be carried out:

- All personnel involved in land clearing and excavation activities will be responsible for managing archaeological protection and will be trained in these aspects by the E&S Specialist.
- If any potential chance finds are encountered, all construction activities in the vicinity of the chance finds will be stopped immediately.
- The Site Manager will be contacted immediately. The discovered site location, characteristics and photographs of potential archaeological material will be recorded by the Site Manager, who will inform the E&S Specialist.
- Elazığ Directorate of Culture will be informed within three days at the latest following the discovery of the accidental find. Contact information of Elazığ Directorate of Culture is given below:

Address: Sürsürü Mh. Atatürk Bulv. Nurettin Arıçoğlu Kültür Merkezi Binası Merkez / ELAZIĞ

Telephone: 0424 2801300

E-mail: iktm23@ktb.gov.tr

- The site and its immediate vicinity will be protected against damage or loss 24 hours a day until inspection by the competent authority.
- The E&S Specialist will complete an " Chance Finds Report Form" for each confirmed chance finds and inform the Project Manager of the date set by the heritage protection authorities when construction works can resume.
- Further steps to be taken and the appropriate plan for the management of the finds (changes to the layout, conservation, preservation, protection, restoration and recovery) will be decided by the competent authorities and reported in writing.
- Photographs of potential artifacts likely to be encountered at the construction site are presented on the following pages for use during training of relevant personnel.

Verification and Monitoring

The E&S Specialist will record all cases of archaeological chance finds. The E&S Specialist will complete an " Chance Finds Reporting Form" for each chance finds approved by the authorities and keep copies in a logbook. An example of a reporting form that can be used to record chance finds is given below. The chance finds logbook will be summarized annually and the records will be included in annual monitoring reports to verify that correct management procedures are being followed. Action items will be carried out in case of non-compliance with this CFP.

Reporting

Contractor will comply with reporting requirements including chance finds defined in site-specific ESMP (contractor will develop monthly and quarterly monitoring reports and submit to Ümraniye Municipality through supervision consultant; Ümraniye Municipality will examine submit the reports to ILBANK quarterly (and monthly if requested by ILBANK); ILBANK will inform the World Bank by providing regular semi-annual monitoring reports.

PART A				
BÖLÜM A				
Subproject Location <i>Altproje Sahası</i>	District (<i>İlçe</i>): Village (<i>Köy</i>):	Date <i>Tarih</i>	Form No	Project Information <i>Proje Bilgisi</i>
Name of person reporting chance find: <i>Şans bulgusunu rapor eden kişinin ismi</i>				
Name of contractor employee contacted: <i>İletişime geçilen yüklenici çalışanın adı:</i>				
Was work stopped in the immediate vicinity of chance find? <i>Şans bulgusunun tam çevresinde iş durduruldu mu?</i>		☐ Yes <i>Evet</i>	☐ No <i>Hayır</i>	
Was a buffer zone created to protect chance find? <i>Şans bulguyu korumak için tampon bölge oluşturuldu mu?</i>		☐ Yes <i>Evet</i>	☐ No <i>Hayır</i>	
NOTIFICATION				
BİLDİRİM				
Site manager contacted. <i>Saha müdürü ile irtibata geçildi.</i>		☐ Yes <i>Evet</i>	☐ No <i>Hayır</i>	
The Subproject E&S manager contacted. <i>Altproje Çevre Müdürü ile irtibata geçildi.</i>		☐ Yes <i>Evet</i>	☐ No <i>Hayır</i>	
CHANCE FIND DETAILS				
ŞANS BULGU AYRINTILARI				
GPS coordinates <i>GPS koordinatları</i>		Photo record <i>Fotoğraf Kaydı</i> (HD quality – no cell phone photos) (<i>HD kalitesinde-cep telefonu fotoğrafı değil</i>)	☐ Yes <i>Evet</i>	☐ No <i>Hayır</i>

	If not, explain why: <i>Değil ise nedenini açıklayınız.</i> Other records ☐Yes ☐No Specify (drawings, HD quality videos, etc.) <i>Diğer kayıtlar</i> ☐Evet ☐Hayır <i>Belirtin (çizimler, HD kaliteli videolar, vb.)</i>
Description of chance find: <i>Şans bulgusunun tanımı:</i>	
Description of site and vegetation: (e.g. surface sediment type, ground surface visibility, distance to closest watercourse, etc.) <i>Sahanın / bulgunun ve saha/bulgunun diğer özelliklerinin tanımı: (örn. Yüzey sediman türü, yüzey zemin görünürlüğü, en yakın su yoluna olan mesafe, vb.)</i>	

PART B	
BÖLÜM B	
NOTIFICATION OF MUSEUM DIRECTORATE ARCHAEOLOGIST	
MÜZE MÜDÜRLÜĞÜ ARKEOLOĞUNA BİLDİRİ	
The Project Environment Representative contacted museum directorate archaeologist.	☐ Yes ☐ No
<i>İzleme arkeoloğu, müze müdürlüğü arkeoloğu ile irtibata geçti.</i>	☐ Yes ☐ No
Date of notification:	
<i>Bildirim tarihi:</i>	
Name of museum directorate archaeologist:	
<i>Müze müdürlüğünün adı ve Müze müdürlüğü arkeoloğunun adı:</i>	
Contact number of museum directorate archaeologist:	
<i>Müze müdürlüğü arkeoloğunun iletişim numarası:</i>	
DECISION OF MUSEUM DIRECTORATE ARCHAEOLOGIST	
MÜZE MÜDÜRLÜĞÜ ARKEOLOĞUNUN KARARI	
Date of site visit:	
<i>Saha ziyaret tarihi:</i>	
Site of no significance - Construction to proceed with no further investigation – End of chance find. <i>Önemsiz Saha – Bulgu - daha fazla araştırma yapılmadan inşaat devam edilebilir – Şans bulgu prosedürün sonu.</i> Date of notice to resume work:	☐ Site of significance - Further investigation required ☐ <i>Önemli Saha – Bulgu - Ek araştırma gerekmektedir</i> Fill out Part C. <i>Lütfen Bölüm C'yi doldurun.</i>

<i>İşe devam etme tarihinin bildirisi:</i>		
Name of museum directorate archaeologist: <i>Müze müdürlüğü arkeoloğunun ismi:</i> Contact information: <i>İletişim numarası:</i>		
Site manager and E&S manager contacted	☐ Yes	☐ No
<i>Saha Müdürü ve E&S müdürü ile irtibata geçildi</i>	☐ <i>Evet</i>	☐ <i>Hayır</i>

PART C BÖLÜM C		
FURTHER FIELD INVESTIGATION EK SAHA ARAŞTIRMASI		
☐ Site of no significance ☐ Az önem taşıyan saha/bulgu	☐ Site of minor significance ☐ Orta derecede önem taşıyan saha/bulgu	☐ Site of major significance ☐ Çok önemli saha/bulgu
Describe additional work to be conducted: <i>Yapılması gereken ek işlerin tanımı:</i>		
Date started: <i>Başlangıç Tarihi:</i>	Date completed: <i>Bitiş Tarihi:</i>	
Date of notice to resume work: <i>İşe geri dönme tarihi bildirisi:</i>		
Name of museum directorate archaeologist: <i>Müze müdürlüğü arkeoloğunun ismi:</i>		
Contact information: <i>İletişim numarası</i>		
Construction manager contacted <i>İnşaat müdürü ile irtibata geçildi</i>	☐ Yes ☐ Evet	☐ No ☐ Hayır

CHANCE FINDING RECORD										
Reporting Period										
Total Incidental Findings										
The Current Situation						This Reporting Period				
IDENTITY (*)	DATE OF THE CHANCE FINDING	LOCATION	SUMMARY OF FINDINGS	NAME OF REPORTED INSTITUTION	DATE PART A WAS COMPLETED	COMPLETION DATE OF PART B	DATE PART C WAS COMPLETED	ACTION TAKEN	OPEN OR CLOSED STATUS	NOTES

Non-Significant Area	Minor Area	Area of Great Importance
- The Environmental Engineer will notify their manager, - The Environmental Engineer will record this decision in Section C of the Chance Find Form within 24 hours, - The Environmental Engineer will keep a copy of the Chance Find Form as a record, No further action will be required, - This step completes the chance find procedure, - Construction activities may continue.	- A rescue excavation will be completed - The Museum Directorate will provide instructions and/or supervision for the rescue archaeological excavation to the Project Environmental Engineer, - The Environmental Engineer will inform their own managers, - Under the guidance of the Museum archaeologist (following instructions from other authorities, Elazığ Museum Directorate,Diyarbakır Cultural Heritage Protection Regional Board Directorate, etc.), the Project will provide a team of qualified archaeologists to conduct the rescue excavation, - The Environmental Engineer will submit a report to the Museum Directorate, - The Cultural Heritage Protection Regional Board Directorate will officially confirm that the rescue operation	Excavation works will be completed, - The area will be handled in accordance with the "Law on the Protection of Cultural and Natural Assets (2863)", - The Museum Directorate will provide instructions and/or supervision for the salvage archaeological excavation to the Environmental Engineer, and the Project Environmental Engineer will inform the Construction Manager, - When the excavation is completed, the Project Representative will submit a report to the Quality Assurance Manager, - The Project Environmental Engineer will submit a report to the Museum Directorate,

	is complete and the Environmental Engineer will inform the construction manager that no further action is required, • The Environmental Engineer will inform other managers, • The Environmental Engineer will record the decision in Section C of the Chance Finding Form within 24 hours, • The Project Environmental Engineer will keep a copy of the Chance Finding form as a record, • No further action will be required, • This step completes the chance finding procedure • Construction activities can resume.	• The Cultural Assets Protection Regional Board Directorate will officially confirm that the recovery is complete and inform the Environmental Engineer, • The site will be officially registered and protected according to Turkish regulations, • The Environmental Engineer will inform the Construction Manager that no further action is required or that a relocation is required, • The Project Environmental Engineer will record the decision in Section C of the Chance Detection Form within 24 hours, • The Project Environmental Engineer will keep a copy of the Chance Detection form as a record, • No further action will be required, • This step completes the chance finds procedure • Construction activities may restart or relocation may be implemented.
Name	Communication	Address
Elazığ Museum Directorate	+90 424 241 11 30	Sürsürü Neighborhood Atatürk Boulevard Nurettin Ardıçoğlu Cultural Center No:79 / ELAZIĞ
Name	Communication	Address
Diyarbakır Cultural Heritage Protection Regional Board Directorate	+90 412 224 08 31 –412 223 55 88 diyarbakirkurul@ktb.gov.tr	Inonu Street, Ziya Gokalp Street No:23 DAGKAPI / DIYARBAKIR

Annex I – Change Notification Form

Change Notification Form		
Subproject Name		
Subproject Location		
Subproject Phase	☐	Pre-construction
	☐	Construction
	☐	Operation
Name of the Institution Notifying the Change		
Date		
Category of the Change (please select all that apply)	☐	Legislative Change
	☐	Design Change
	☐	Schedule Change due to E&S factors
	☐	Project Schedule Changes due to technical, financial, legal or administrative factors
	☐	Changes due to E&S issues encountered at Subproject implementation
	☐	Contractor or Construction Supervision Consultant Change
	☐	Other (please specify below)
Detailed Description of the Change(s)		
Documents Submitted with Change Notification Form		
Name of the Staff Notifying the Change		
Position of the Staff Notifying the Change		
Signature		

Change Notification Form			

Annex J - Institutional and Legal Framework in Türkiye

Environmental impacts, permits, management and inspection of the project is under the scope of authority of MoEUCC, Ministry of Agriculture and Forestry, Ministry of Culture and Tourism, Ministry of Labor and Social Security and Ministry of Health. MoEUCC is the key authority regulating policies and procedures related to conservation and protection of natural environment, management of natural resources and settlements by its general directorates. Those principally related to the Project are given as follows:

- General Directorate of Environmental Impact Assessment, Permit, and Inspection
- General Directorate of Environmental Management
- General Directorate of Protection of Natural Assets
- General Directorate of Infrastructure and Urban Transformation Services
- General Directorate of Land Registry and Cadastral

Provincial, regional and district level administrations are the provincial organizations of ministries and relevant institutions. Within the scope of the sub-project, Ümraniye Municipality, Maden Municipality, Elazığ Provincial Directorate of Environment, Urbanization and Climate Change, Maden District Directorate of Agriculture and Forestry, Maden District Social Assistance and Solidarity Foundation and Camikebir Neighborhood Mukhtar are associated as local authorities for the sub-project.

National Legislation applicable to the management of environmental, social, health and safety aspects of the Proposed Project is described under this section.

The Environmental Law No: 2872 published in the Official Gazette No. 18132 dated 11.08.1983 and later revised in the Official Gazette No. 28661 and dated 29.05.2013 (Law No. 6486) constitutes the basic legal framework of the environmental legislation in Türkiye and is largely in line with the EU Directive on EIA.

This law is supported by numerous regulations. Article 10 of Environmental Law forms the main framework of the Environmental Impact Assessment (EIA Regulation) published in the Official Gazette No. 31907 dated 29.07.2022. As per the EIA Regulation, the projects that are listed in its Annex-I are subject to a full EIA process and those projects have to receive an “EIA Positive” certificate to proceed with investments. The projects that are listed in Annex-II of the Regulation are subject to a shorter process where the project proponents are required to submit a Project Information File (PIF) to the MoEUCC. MoEUCC gives its “EIA is Necessary” or “EIA is not necessary” decision regarding the project.

Unless the decision that “EIA is Positive” or “EIA is not Required” is made in accordance with the EIA Regulation for the project’s activities, incentive, approval, permit, building license and use permit for such projects cannot be granted, and no investment can be started or tendered for the project. However, this does not preclude applying for the processing of such incentives, approvals, permits, and licenses. As part of the European Union membership process, Türkiye has carried out a variety of organizational and legislative reforms. With these reforms, environmental legislation and environmental protection instruments have been harmonized with international standards. The activities and liabilities to be carried out within the scope of the Project must adhere to the provisions of the relevant Turkish legislation.

According to the EIA Regulation (Official Gazette dated 29.07.2022 and numbered 31907), the Project is within the scope of Annex-I of EIA Regulation. The EIA Positive Certificate for the project is given in.

In addition to Environmental Law No: 2872, several associated laws are complementary regarding the protection and sustainability of the environment as well as the protection of health and safety rights of people. Those laws which would be applicable to the proposed Project are listed below:

- Environmental Law No. 2872 (OG No:18132, dated 11.08.1983)
- Expropriation Law No. 2942 (OG No:18215, dated 08.11.1983)
- Forestry Law No. 6831 (OG No:9402, dated 08.09.1956)
- National Parks Law No. 2873 (OG No:18132, dated 11.08.1983)
- Conservation of Cultural and Natural Assets Law No. 2863 (OG No:18113, dated 23.07.1983, and revised through the amendment issued on 27.07.2004)

- Highways Traffic Law No. 2918 (OG No:18195, dated 13.10.1983)
- Soil Conservation and Land Use Law No. 5403 (OG No:25880, dated 19.07.2005)
- Terrestrial Hunting Law No. 4915 (OG No:25165, dated 11.07.2003)
- Animal Protection Law No. 5199 (OG No:25509, dated 01.07.2004)
- Labor Law No. 4857 (OG No:25134, dated 10.06.2003)
- Occupational Health and Safety Law No. 6331 (OG No:28339, dated 30.06.2012)
- Social Insurance and General Health Insurance Law (OG No:26200 dated: 16.06.2006)

The main national laws regarding Public Health and Safety are as follows:

- General Hygiene Law No. 1593
- Law No. 5378 on Disabled People
- Private Security Services Law No. 5188
- Law No. 7269 on Measures to be Taken and Assistance to be Provided Due to Disasters Affecting Public Life
- Building Earthquake Regulation in Türkiye (Official Gazette dated 18.03.2018 and numbered 30364)
- Disaster Regulation for Infrastructures (Official Gazette dated 15.02.2007 and numbered 30364)
- Law No. 4708 on Building Inspection (Construction and Usage Permits)
- Zoning Law No. 3194 (Construction and Usage Permits)
- Law No. 6306 on the Transformation of Areas Under Disaster Risk

The regulations developed under the Environmental Law aim to specify and identify the procedures and principles of the management of environmental aspects. Under the relevant laws, several regulations or communiques are summarized in below.

Table 42.Environmental, Social, Labor, Health and Safety Legislation

Regulations / Communiques	OG Number	OG Date	Relevance/Implication for the Project
Environmental Permit and Licenses			
Regulation on Environmental Impact Assessment	31907	29.07.2022	Scoping of the Project and evaluation of impacts for the pre-construction, construction and operation stages of the Project.
Regulation on Environmental Permits and Licensing	29115	10.09.2014	Requirements for environmental permits and licenses at all stages of the Project.
Regulation on Environmental Auditing	31509	12.06.2021	Requirements for environmental audits to be performed by either Project Owner or governmental authorities during construction and operation stages.
Regulation on the Implementation of the Law Concerning Private Security Services	25606	07.10.2004	During the construction phase for camp site security and during the operation phase for safety purposes.
Air Quality Control and Greenhouse Gas (GHG) Emissions			
Industrial Air Pollution Control Regulation	27277	03.07.2009	During the construction phase, dust emissions.
Exhaust Gas Emission Control Regulation	30004	11.03.2017	Operation of Project vehicles, machinery, and equipment at all phases of the Project.
Biodiversity Conservation and Protection of Nature			
Regulation on Protection of Wildlife and Wildlife Development Area	259637	08.11.2004	Measures to be taken for wildlife protection near to the Project area during the planning phase of the Project.

Regulations / Communiqués	OG Number	OG Date	Relevance/Implication for the Project
Chemicals and Other Dangerous Substances			
Regulation on Classification, Labelling, and Package of the Materials and Mixtures	28848	11.12.2013	Taking measures for chemicals and mixtures to be used during construction and operation phases.
Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals	30105	23.06.2017	Determination of chemicals to be used during the operation phase.
Regulation on the Control of Polychlorinated Biphenyls (PCBs) and Polychlorinated Terphenyls (PCTs)	26739	27.12.2007	Usage of transformers, capacitors, electrical equipment including voltage regulators, switches, oil used in motors, old electrical devices or appliances containing PCB capacitors, fluorescent light ballasts during the operational phase.
Noise			
Environmental Noise Control Regulation	32029	30.11.2022	Determination of noise emissions and measures to be taken at construction and operation phases.
Regulation on the Environmental Noise Emissions Caused by Equipment Used Outdoors	26392	30.12.2006	Regulating the noise levels caused by noise sources within the Project site at the construction and operation phases.
Soil and Land Use			
Regulation on the Control of Soil Pollution and Lands Contaminated by Point Sources	27605	08.06.2010	Determination of risks of soil contamination at construction and operation phases.
Regulation on Control of Excavated Soil, Construction and Demolition Wastes	25406	18.03.2004	Management of excavated soil and construction and demolition wastes at the source.
Regulation on Protection, Use, and Planning of Agricultural Lands	30265	09.12.2017	Management of change in the land use during the planning phase of the Project.
Waste			
Regulation on Waste Management	29314	02.04.2015	Management of waste from generation to disposal without harming the environment and human health during construction and operation phases.
Zero Waste Regulation	30829	12.07.2019	General principles regarding the establishment, development, monitoring, financing, recording and certification of the zero waste management system in line with sustainable development goals during construction and operation phases.
Regulation on Packaging Waste Control	30283	27.12.2017	Preventing the formation of packaging waste, reducing the amount of unavoidable packaging waste to be disposed of using reuse, recycling and recovery methods in construction and operation phases.
Regulation on Waste Oil Management	30985	21.12.2019	Waste oils included in the definition of waste oil and the management, recovery, disposal of these wastes, precautions to be taken and notifications to be made
Regulation on Medical Waste Control	29959	25.01.2017	Collection of medical waste in the places where it is produced, temporary storage, transportation to the medical waste processing facilities and disposal

Regulations / Communiques	OG Number	OG Date	Relevance/Implication for the Project
Regulation on Control of Waste Electrical and Electronic Equipment	32055	26.12.2022	Management of electrical and electronic equipment wastes during construction and operation phases.
Regulation on Control of Waste Batteries and Accumulators	25569	31.08.2004	Establishment of a collection system and management for the recovery or final disposal of waste batteries and accumulators.
Regulation on Control of End-of-life Tires	26357	25.11.2006	Establishing a collection and management system for ensuring the necessary regulations and standards in the management of end-of-life tires during the construction and operation phases.
Water and Wastewater			
Regulation on the Protection of Ground Waters against Pollution and Deterioration	28257	07.04.2012	Protection of groundwater sources against pollution during construction and operation phases.
Regulation on the Control of Pollution Caused by Hazardous Substances in and around Water Environment	26005	26.11.2005	Management of hazardous substances during construction and operation phases.
Regulation on Wastewater Collection and Removal Systems	29940	06.01.2017	Procedures and principles regarding the planning, design and project design, construction and operation of wastewater collection and removal systems.
Structural Safety			
Regulation on Structures to be Built in Natural Disaster Areas	26582	14.07.2007	Management of construction works within the scope of the Project.
Regulation on Building Constructions in Earthquake Zones	26454	06.03.2007	Management of construction works within the scope of the Project.
Regulation on Building Earthquake of Türkiye	30364	18.03.2018	Measures to be taken for the design and construction works under the impact of earthquakes and the evaluation of the performance of existing buildings under the impact of earthquakes.
Regulation on the Protection of Buildings from Fire	26735	19.12.2007	Measures to be taken for fire protection during construction and operation phases.
Traffic			
Regulation on the Road Transportation of Hazardous Goods	28801	24.10.2013	Hazardous goods to be transported during construction and operation phase.
Regulation on Highway Traffic	23053	18.07.1997	Regulating speed limits of vehicles and machinery used during construction and operation phases.
Regulation on Traffic Signs	18789	19.06.1985	Regulating the traffic signs to be used during the construction and operation phases

Regulations / Communiqués	OG Number	OG Date	Relevance/Implication for the Project
Health and Safety and Labor			
Regulation on Emergency Situations in Workplaces	28681	18.06.2013	Preparation of emergency plans, prevention, protection, evacuation, firefighting, first aid and similar studies in workplaces.
Regulation on duties and responsibilities of Occupational Safety Specialists	28512	29.12.2012	Defines roles and responsibilities of OHS specialists
Regulation on duties and responsibilities of Occupational Physicians and other medical personnel	28713	20.07.2013	Defines roles and responsibilities of Occupational physicians and the medical personnel
Regulation on Health and Safety at Construction Works	28786	05.10.2013	Measures to be taken during construction phase.
Regulation on Health and Safety Conditions Regarding Use of Work Equipment	28628	25.04.2013	Measures to be taken during construction phase related to use of equipment.
Regulation on Health and Safety Precautions Regarding Working with Chemicals	28733	12.08.2013	Measures to be taken during construction and operation phase related to use of chemicals.
Regulation on Protection of Employees from the Hazards of Explosive Environments	28633	30.04.2013	Procedures and principles regarding the precautions to be taken in order to protect the employees from the dangers of explosive atmospheres that may occur in the workplaces in terms of health and safety.
Regulation on Health and Safety Regarding Temporary and Time-Limited Works	28744	23.08.2013	Protection of employees with a temporary or fixed-term employment contract at the same level as other employees in the workplace in terms of health and safety.
Regulation on Health and Safety Signs	28762	11.09.2013	Measures to be taken during construction and operation phases.
Regulation on Management of Dust	289812	05.11.2013	Measures to be taken to combat dust in terms of occupational health and safety to prevent the risks that may arise from dust in the workplaces and to ensure that the workers are protected from the effects of dust.
Safety Data Sheets(SDS) prepared within the framework of the Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals	23.06.2017, OG 30105. SDS Provisions: Articles 27–32 and Annex 2		Preparation of safety data sheets to ensure effective control and surveillance against the negative effects of harmful substances and mixtures on human health and the environment during construction and operation phases.(2023 Updates: Amendments were made to the regulation on December 23, 2023. These changes affected the SDS preparation, registration periods, data sharing, and monitoring processes)
Law on Occupational Health and Safety (6331)	28339	20.06.2012	Health and safety measures to be taken during construction and operation stages.
Regulation on Personal Protective Equipment	30761	01.05.2019	Measures to be taken during construction and operation phases to ensure the health and safety of employees.
Regulation on Protection of Workers from Risks Created by Noise	28721	28.07.2013	Measures to be taken during construction and operation phases to ensure the health and safety of employees.

Regulations / Communiques	OG Number	OG Date	Relevance/Implication for the Project
Regulation on Risk Assessment for Occupational Health and Safety	28512	29.12.2012	Determination of occupational health and safety risks occurring during construction and operation phases.
Regulation on Sub-contractors	27010	27.09.2008	Management of contractors/sub-contractors during construction and operation phases.
Regulation on Use of Personal Protective Equipment in Workplaces	28695	02.07.2013	Measures to be taken during construction and operation phases to ensure the health and safety of employees.
Regulation on Vocational Training of the Employees Working in Dangerous and Highly Dangerous Workplaces	28706	13.07.2013	Measures to be taken during construction and operation phases to ensure the health and safety of employees.
Regulation on the Procedures and Principles of Employee Health and Safety Training	28648	15.05.2013	Measures to be taken during construction and operation phases to ensure the health and safety of employees.
Regulation on High Current Electrical Facilities	24246	30.11.2000	Covers measures regarding the safe installation, construction, operation and maintenance of high current electrical facilities.
Regulation on Manual Handling	28717	24.07.2013	Defines the safe procedures for safe handling of goods and equipment using manual manpower.
Cultural Heritage			
Law on Protection of Cultural and Natural Assets	18113	23.07.1983	Although there will not be a major excavation on the project site, a chance finds procedure will be in place at the construction phase.
Regulation on Researches, Drillings and Excavations in relation to the Cultural and Natural Assets	18485	10.08.1984	Defining the procedures and obligations concerning the cultural and natural assets found out during construction.

International Agreements and Conventions:

The international agreements and conventions ratified by Türkiye are listed below:

- Paris Agreement (2021)
- UN Framework Convention on Climate Change (UNFCCC) (2004)
- Rio Declaration on Environment and Development and Statement on Forest Principles (1992)
- Convention on Biological Diversity (Rio Convention) (1992)
- Paris Convention on the Protection of the World Cultural and Natural Heritage (1975)
- Barcelona Convention on the Protection of the Mediterranean Sea Against Pollution (1976)
- The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) (1981)
- Bern Convention on Protection of Europe's Wildlife and Living Environment (1982)
- Vienna Convention for the Protection of the Ozone Layer (1988)
- Montreal Protocol on Substances Depleting the Ozone Layer (1990)
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (1994)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (1996)
- UN Convention to Combat Desertification (1998)
- United Nations Europe Economic Commission Convention on Transboundary Effects of Industrial Accidents (2000)

- Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) (2001)
- Stockholm Convention on Persistent Organic Pollutant (2010)
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1972)
- Mediterranean Sea Protocol Concerning Specially Protected Areas and Biodiversity (1988), including related protocols
- International Labor Organization (ILO) Convention on Forced Labor (1930)
- ILO Convention on Freedom of Association and Protection of the Right to Organize (1948)
- ILO Convention on Right to Organize and Collective Bargaining (1949)
- ILO Convention on Equal Remuneration (1951)
- ILO Convention on Abolition of Forced Labor (1957)
- ILO Convention on Discrimination (Employment and Occupation) (1958)
- ILO Convention on Worst Forms of Child Labor (1999)

Annex K - Sub project Fauna

Birds

In the literature and field studies conducted for Elazığ-Maden district and its immediate surroundings, 247 species were identified, including 246 species and 1 subspecies (*Motacilla flava feldegg*- Masked wagtail) in 51 families belonging to 17 orders. In addition, 200 bird species were identified.

Main Bird Species Identified in the Region, Their Protection Status and Status

No	FAMILYA	TÜR	TURKCE_ADI	GOC_DURUMU	BERN	CITES	IUCN	ENDEMIK	IZLEME_GOSTERG ESI	REFERANS_ KAYNAK
1	Accipitridae	Accipiter brevipes	Yaz atmacası	Transit Göçmen	EK-II	EK-II	LC	Endemik Değil	İzlemeye Konu Değil	6
2	Anatidae	Mareca strepera	Boz ördek	Yerli	EK-III	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	2
3	Anatidae	Anser albifrons	Sakarca	Kış ziyaretçisi	EK-III	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	2
4	Accipitridae	Aquila heliaca	Şah kartal	Transit Göçmen	EK-II	EK-I	VU	Endemik Değil	İzlemeye Konu Değil	6
5	Anatidae	Aythya nyroca	Pasbaş patka	Kış ziyaretçisi	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	9
6	Burhinidae	Burhinus oedicnemus	Kocagöz	Yerli	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	2,6
7	Passeridae	Carpospiza brachydactyla	Boz serçe	Transit Göçmen	EK-III	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6
8	Cuculidae	Clamator glandarius	Tepeli guguk kuşu	Transit Göçmen	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	2,6
9	Fringillidae	Coccothraustes coccothraustes	Kocabaş	Yerli	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6

No	FAMILYA	TÜR	TURKCE_ADI	GOC_DURUMU	BERN	CITES	IUCN	ENDEMIK	IZLEME_GOSTERG ESI	REFERANS_ KAYNAK
10	Columbidae	Columba oenas	Gökçe güvercin	Kış ziyaretçisi	Liste Dışı	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	7,9
11	Picidae	Dendrocopos medius	Ortanca ağaçkakan	Yerli	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6
12	Picidae	Dendrocopos minor	Küçük ağaçkakan	Yerli	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6
13	Emberizidae	Emberiza cineracea	Boz çinte	Transit Göçmen	EK-II	Liste Dışı	NT	Endemik Değil	İzlemeye Konu Değil	6
14	Falconidae	Falco columbarius	Bozdoğan	Kış ziyaretçisi	EK-II	EK-II	LC	Endemik Değil	İzlemeye Konu Değil	3,4
15	Falconidae	Falco peregrinus	Gökdoğan	Transit Göçmen	EK-II	EK-I	LC	Endemik Değil	İzlemeye Konu Değil	6
16	Falconidae	Falco vespertinus	Aladoğan	Transit Göçmen	EK-II	EK-II	NT	Endemik Değil	İzlemeye Konu Değil	3
17	Gruidae	Grus grus	Turna	Transit Göçmen	EK-II	EK-II	LC	Endemik Değil	İzlemeye Konu Değil	6
18	Haematopodidae	Haematopus ostralegus	Poyrazkuşu	Transit Göçmen	EK-III	Liste Dışı	NT	Endemik Değil	İzlemeye Konu Değil	6
19	Picidae	Jynx torquilla	Boyunçeviren	Kış ziyaretçisi	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6
20	Laniidae	Lanius nubicus	Maskeli örümcekkuşu	Transit Göçmen	EK-II	Liste Dışı	LC	Endemik Değil	İzlemeye Konu Değil	6

Many data on bird migrations have been collected in Türkiye and migration routes have been presented in the Book of Bird Mobility Maps of Türkiye, one of the most comprehensive and detailed studies. According to this study, migration maps of birds are given in Figure 18.

The sub-project area is located near the main migration route according to the Türkiye Bird Migration Bottleneck Map. There are existing solar power plants around the project area. Therefore, there are no environmental elements (trees, tree hollows, bushes, etc.) in the sub-project area where bird species can meet their feeding, sheltering, accommodation and breeding needs.



Figure 18. Türkiye Bird Migration Bottleneck Map

Reptiles

A total of 28 reptile species were identified in Maden; 10 of these 28 species were not recorded in the literature and were identified only by the field studies carried out within the scope of this project. These ten species are (*Blanus alexandri*, *Dolichophis jugularis*, *Eirenis eiselti*, *Eirenis lineomaculatus*, *Eirenis thospitis*, *Eryx jaculus*, *Malpolon insignitus*, *Telescopus fallax*, *Dolichophis schmidt*, *Rhynchocalamus melanocephalus*). When the taxa in the area are evaluated according to IUCN threat categories, there are 17 LC, 1 VU, 9 NE and 1 DD categories.

Sıra No	FAMILYA	TÜR	TURKCE_ADI	BERN	CITES	IUCN	ENDEMIK	REFERANS_KAYNAK
1	Scincidae	<i>Ablepharus chernovi</i>	Çernov İnce Kertenkelesi	EK-III	Liste Dışı	LC	Endemik Değil	14
2	Lacertidae	<i>Apathya cappadocica</i>	Kayseri kertenkelesi	EK-III	Liste Dışı	LC	Endemik Değil	3, 4, 10, 15, 14
3	Colubroidea	<i>Eirenis punctatolineatus</i>	Van Yılanı	EK-III	Liste Dışı	LC	Endemik Değil	8
4	Scincidae	<i>Eumeces schneideri</i>	Sarı Kertenkele, Keçemen	EK-III	Liste Dışı	NE	Endemik Değil	14
5	Colubroidea	<i>Hemorrhois ravergieri</i>	Kocabaş Yılan	EK-III	Liste Dışı	NE	Endemik Değil	15
6	Lacertidae	<i>Lacerta media</i>	Doğu Yeşil Kertenkelesi, Ortanca Yeşil Kertenkele	EK-III	Liste Dışı	LC	Endemik Değil	15
7	Viperidae	<i>Macrovipera lebetina</i>	Koca Engerek	EK-II	Liste Dışı	NE	Endemik Değil	1, 6, 12
8	Geomydidae	<i>Mauremys caspica</i>	Hazer Çizgili Kaplumbağası	EK-II	Liste Dışı	NE	Endemik Değil	3, 9, 10, 15, 14
9	Colubroidea	<i>Natrix tessellata</i>	Su Yılanı	EK-II	Liste Dışı	LC	Endemik Değil	15
10	Lacertidae	<i>Ophisops elegans</i>	Yılan Gözlü Kertenkele	EK-II	Liste Dışı	NE	Endemik Değil	2, 10, 11, 15, 14
11	Colubroidea	<i>Platyceps najadum</i>	İnce Yılan, Ok Yılanı	EK-II	Liste Dışı	LC	Endemik Değil	15
12	Agamidae	<i>Stellagama stellio</i>	Dikenli Keler	EK-II	Liste Dışı	LC	Endemik Değil	1,7
13	Testudinidae	<i>Testudo graeca</i>	Tosbağa	EK-II	EK-II	VU	Endemik Değil	1, 3, 10, 13, 15, 14
14	Scincidae	<i>Trachylepis aurata</i>	Tıkız Kertenkele	EK-III	Liste Dışı	LC	Endemik Değil	14
15	Scincidae	<i>Trachylepis vittata</i>	Şeritli Kertenkele	EK-III	Liste Dışı	LC	Endemik Değil	15
16	Agamidae	<i>Trapelus lessonae</i>	Bozkır Keleri	EK-III	Liste Dışı	LC	Endemik Değil	1
17	Typhlopidae	<i>Typhlops vermicularis</i>	Kör Yılan	EK-III	Liste Dışı	NE	Endemik Değil	5
18	Gekkonidae	<i>Mediodactylus heterocercus</i>	Mardin Keleri	EK-III	Liste Dışı	LC	Endemik Değil	14
19	Amphisbaenidae	<i>Blanus alexandri</i>	Kör Kertenkele	EK-III	Liste Dışı	NE	Endemik	
20	Colubroidea	<i>Dolichophis jugularis</i>	Kara Yılan	EK-II	Liste Dışı	LC	Endemik Değil	

Annex L - Consultation Meeting Images



