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SUSTAINABLE CITIES PROJECT- II

Additional Financing



Republic of Türkiye
Akçakoca Municipality

Akçakoca Covered Market Rooftop
Solar Power Plant Project
Environmental and Social Management Plan

Final Report

January 2024



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January 2024

Prepared by ACE Consulting and Engineering Inc.

Client: ILBANK A.Ş.

Project Owner: Akçakoca Municipality

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List of Abbreviations

°C	: Celsius Degree
µg	: Microgram
AC	: Alternating Current
ACCOBAMS	: Agreement on the Conservation of Cetaceans of the Black Sea Mediterranean Sea and Contiguous Atlantic Area
ACE	: ACE Consulting and Engineering Inc.
AF	: Additional Financing
AFAD	: Disaster and Emergency Management Presidency
AoI	: Area of Influence
AQI	: Air Quality Index
CFCs	: Chlorofluorocarbons
CIMER	: Presidency Communication Center
CITES	: Convention on International Trade in Endangered Species of Wild Flora and Fauna
cm	: centimeter
CO	: Carbon monoxide
CSO	: Civil Society Organization
dB	: Decibel
dBA	: Decibel A Scale
DC	: Direct Current
DD	: Data Deficient
DIKAB	: Düzce Provincial Solid Waste Association
E&S	: Environmental and Social
EA	: Environmental Assessment
EHS	: Environment, Health and Safety
EIA	: Environmental Impact Assessment
EMEP	: Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
EPDK	: Energy Market Regulatory Authority
Eptisa	: Eptisa Engineering Services
ESIA	: Environmental and Social Impact Assessment
ESMF	: Environmental and Social Framework
ESMP	: Environmental and Social Management Plan
ESMR	: Environmental and Social Monitoring Report
ETL	: Energy Transmission Line
EU	: European Union
FI	: Financial Intermediary



GBV	: Gender-based Violence
GHGs	: Greenhouse Gas Emissions
GIIP	: Good International Industry Practice
GRM	: Grievance Redress Mechanism
h	: hour
Hz	: Hertz
IFC	: International Finance Corporation
ILBANK	: ILBANK A.Ş.
IUCN	: International Union for Conservation of Nature
km	: Kilometer
km²	: Square kilometer
KPI	: Key Performance Indicator
kVA	: Kilo-volt-amps
kW	: kilowatt
kWp	: Kilowatt power
L&FS	: Life and Fire Safety
LARAP	: Land Acquisition and Resettlement Action Plan
LARPF	: Land Acquisition and Resettlement Policy Framework
LC	: Least Concern
Leq	: Mean Tracheal Sound Energy
LTIR	: Lost Time Injury Rate
LUC	: Land Use Capability
m	: Meter
m²	: Square meter
MAKK	: Decision of the Central Hunting Commission
MEUCC	: Ministry of Environment, Urbanization and Climate Change
mm	: Millimeter
MoAF	: Ministry of Agriculture and Forestry
MoTAT	: Mobile Waste Tracking System
MSP	: Municipal Services Project
NA	: Not Applicable
NGOs	: Non-Governmental Organizations
NO	: Nitrogen monoxide
NO₂	: Nitrogen dioxide
NO_x	: Nitrogen oxides
NT	: Near Threatened
O₃	: Ozone
OG	: Official Gazette



OHS	: Occupational Health and Safety
OP	: Operational Policy
P50	: Power production with 50% probability
P90	: Power production with 90% probability
PAP	: Project Affected People
PDEUCC	: Provincial Directorate of Environment, Urbanization and Climate Change
PID	: Project Identification Document
PIF	: Project Identification File
PM₁₀	: Particulate matter less than 10 µm
PM_{2.5}	: Particulate matter less than 2.5 µm
PMU	: Project Management Unit
PPE	: Personal Protective Equipment
PV	: Photovoltaic
RAMAQ	: Regulation on Management of Air Quality
RAP	: Resettlement Action Plan
RCIAP	: Regulation on Control of Industrial Air Pollution
RENC	: Regulation on Environmental Noise Control
s	: Second
SCP	: Sustainable Cities Project
SEA/SH	: Sexual Exploitation and Abuse and Sexual Harassment
SEDAŞ	: Sakarya Electricity Distribution Corporation
SEP	: Stakeholder Engagement Plan
SHW	: General Directorate of State Hydraulic Works
SO₂	: Sulphur Dioxide
SOP	: Series of Projects
t	: Tone
TEDAŞ	: Turkish Electricity Distribution Corporation
TEM	: Trans European Motorway
TurkStat	: Turkish Statistical Institute
UNECE	: United Nations Economic Commission for Europe
VU	: Vulnerable
WB	: World Bank
WBG	: World Bank Group
WHO	: World Health Organization
Wp	: Watt-peak
WWTP	: Wastewater Treatment Plant
XLPE	: Cross-linked polyethylene
YİMER	: Foreigners Communication Centre



Executive Summary

ILBANK A.Ş. (ILBANK) is implementing the Sustainable Cities Project (SCP) with technical and financial support from the World Bank (WB) and the European Union (EU). The Project assists cities through (a) planning for sustainable infrastructure service needs through more comprehensive and integrated municipal planning; (b) developing capital investment plans linked to urban plans to mobilize long-term financing that is essential in responding to investment priorities, and (c) financing infrastructure service requirements. The objective is to improve the planning capacity of and access to targeted municipal services in participating municipalities and utilities.

This Akçakoca Covered Market Rooftop Solar Power Plant Project (the Project) is the construction of a rooftop photovoltaic (PV) solar power plant (SPP) on the covered market in the Osmaniye Neighborhood, Akçakoca District of Düzce Province in Türkiye. The Project is in the scope of the SCP-II Additional Financing (AF). The total electricity consumption of the facilities associated with the SPP was 1,613,280 kWh in 2021. The Project consists of 1,080 kW (1,474.2 kWp) installed capacity and the SPP is expected to produce 1,719,000 kWh/year electricity. The Project aims to produce electricity in a manner to protect the environment as well as provide economic development for the district by utilizing solar energy as a renewable energy resource instead of fossil fuels. An underground energy transmission line (ETL) will also be built for the electrical connection of the SPP to the grid of Sakarya Electricity Distribution Corporation (SEDAŞ) from Koçak Eski Sanayi Distribution Center (DM) 4006. The total length of the ETL is about 350 m with a 34.5 kV voltage. Article 5/1/c of Regulation on Unlicensed Electricity Generation in the Electricity Market (published in the Official Gazette dated 12.05.2019 and numbered 30772) specifies that "The generation facilities based on renewable energy resources with an installed capacity of one megawatt or up to the upper limit of installed capacity determined by the President of the Republic of Türkiye within the framework of Article 14 of the Law, will be able to establish generation facilities free from the obligation to establish a company with pre-license and license.". Based on this article, Akçakoca Municipality has made the application of unlicensed energy generation to the Sakarya Electricity Distribution Corporation (SEDAŞ) on 28th of October 2020. The "Call Letter" (see Annex 1) to unlicensed energy generation connection was received from the SEDAŞ on 17th of December 2020, and the project acceptance/approval process has been completed. The Connection Agreement (see Annex 2) between the Akçakoca Municipality and SEDAŞ was signed on 22nd of March 2021. The "Call Letter" required for unlicensed electricity generation was received from the Turkish Electricity Distribution Corporation (TEDAŞ) on 17th December 2020, and the Project acceptance/approval process was completed. The Connection Agreement between the Akçakoca Municipality and Sakarya Electricity Distribution Corporation (SEDAŞ) was signed on 22nd March 2021. The Project Owner is Akçakoca Municipality. The Project location belongs to Akçakoca Municipality.

This Environmental and Social Management Plan (ESMP) has been prepared by ACE Consulting and Engineering Inc. (ACE) to assess the environmental and social (E&S)



impacts and risk assessment studies of the Project, in line with the WB Operational Policy (OP) for Environmental Assessment (OP 4.01), Environmental and Social Management Framework (ESMF) of ILBANK for SCP-II AF and Turkish legislation. Presented in this ESMP are the legal framework for E&S management; project description; E&S baseline; E&S impacts/risks of the Project; mitigation plan; monitoring plan; E&S monitoring report (ESMR); institutional arrangements for the project implementation and the activities for the involvement of the public. A separate Stakeholder Engagement Plan (SEP) is also developed to identify the stakeholders, including the potentially vulnerable/disadvantaged groups, outline the sub-projects communication and engagement strategy, introduce tools and measures of engagement, and set out the principles of grievance of the Project.

In case of any possible emergency such as fire and explosion during the installation and operation of the SPP, emission of hazardous materials in the solar panels to the environment may occur as a result of combustion. These may impact the water source adjacent to the project area (Orhan Creek). Besides, toxic vapors which can be released from the panels may affect community and occupational health adversely. Technical measures are needed be taken against particularly electrical risks to eliminate these hazards and ensure safety. Additionally, these environmental and social impacts and risk can be mitigated if appropriate emergency response planning is developed and implemented within the Project scope. The waste solar panels, including hazardous materials generated, may also affect soil quality negatively if disposed of in an uncontrolled manner. There should be a proper waste management system in place against potential adverse impacts accordingly. In terms of occupational health and safety, accident and incidents may occur due to physical hazards such as electricity and working at height. Thus, a robust health and safety management system are needed to be developed and implemented within the Project scope. Also, as a chemical hazard, asbestos dust will be released as a consequence of the removal of asbestos-containing roof material, and it will threaten occupational and community health and safety. In this respect, removal works must be carried out under the supervision of an asbestos removal specialist in line with the Asbestos Management Plan to be prepared.

Since the land is owned by Akçakoca Municipality, there will be no land acquisition within the scope of the Project.

The market place consists of six (6) sections and the construction of the Project will be undertaken section by section. The section under construction will be closed by appropriate barriers. During construction, the tradesmen selling in the section under construction will be transferred to other sections and if additional space is needed, the existing car park will be partially used. As a result, the Project will not result in an economic displacement since the tradesmen will be able to continue their work during construction. Considering that the public uses the market place, an effective stakeholder engagement mechanism within the Project's scope must be implemented accordingly.

This Project is **exempt from an Environmental Impact Assessment (EIA) study** according to the repealed Turkish EIA Regulation (Official Gazette numbered 29186 and



dated 25.11.2014). The EIA exemption letter dated 23rd September 2020 was received from the Düzce Provincial Directorate of Environment, Urbanization and Climate Change (PDEUCC) based on the repealed EIA Regulation dated 25.11.2014 by the Project Owner accordingly (see Annex-3). This letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed. Moreover, the Project is classified as a **Category B** Project according to the WB OP 4.01.



1 Introduction

1.1 Overview

The Sustainable Cities Project (SCP) builds on a Municipal Services Project (MSP) and its Additional Financing (MSP-AF), which was implemented between 2005 and 2016, together with ILBANK A.Ş. (ILBANK). ILBANK implements the program with technical and financial support from WB and EU. The program aims to help municipalities: (i) respond to current and increasing demands for urban services; (ii) plan for future infrastructure service needs sustainably; (iii) mobilize financing to fund priority investments; and (iv) adhere to new spatial planning mandates and infrastructure service requirements. The proposed program is designed as a series of projects (SOP) and includes the following series:

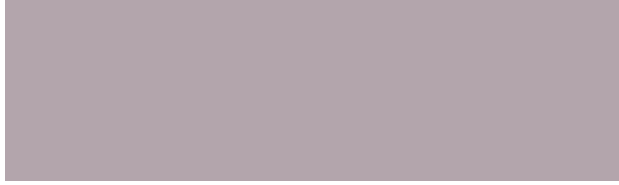
- Sustainable Cities Project 1 (SCP-I),
- Sustainable Cities Project 2 (SCP-II),
- Sustainable Cities Project-II - Additional Financing (SCP-II AF).

The first project in the SOP, SCP I, consists of three Components.

- **Component A:** Sustainable City Planning and Management Systems aimed at supporting reforms including policies and legislation that improve sustainable urban development planning, including technical assistance support (i) to municipalities/utilities for planning and management and the preparation of feasibility studies, environmental assessments and engineering designs for municipal subprojects; and (ii) to ILBANK for management of the grant and capacity building.
- **Component B:** Municipal Investments, which finance demand-driven municipal investments.
- **Component C:** which finances Project Management of ILBANK.

The second project in the SOP, SCP II, consists of two components:

- **Component A:** Municipal Investments; this component was designed to finance demand-driven municipal infrastructure investments. Sectors eligible for investment included public transport, water and wastewater, solid waste management and energy.
- **Component B:** Project Management (financed by ILBANK); this component was designed to finance goods and consultancy services for project management, monitoring and evaluation, outreach and communication. Municipalities under SCP II also benefitted from Technical Assistance under Component A of SCP I, which included the Sustainable Cities Planning and Management component funded by the EU.



SCP-II AF, includes the same two components as SCP-II. The SCP-II AF will also be very similar to SCP II in terms of nature of the subprojects (investments).

In the scope of SCP-II AF, ILBANK is responsible for identifying eligible sub-borrowers and ensuring that the sub-project eligibility criteria are met. The potential subprojects were identified in five different sectors:

- Environmental infrastructure (water and sanitation and waste management),
- Energy efficiency (geothermal heating and drilling),
- Urban mobility (intercity railway line, bicycle road),
- Social infrastructure (kindergarten, center for disabled and elderly people),
- Disaster risk management (firefighting services) are listed within the scope of the terms of references.


Subprojects should meet a set of eligibility criteria to ensure that all subprojects supported under the project are financially, economically, and technically viable and meet all environmental and social (E&S) requirements. The project's sub-borrowers (district municipalities, metropolitan municipalities or their affiliated utilities) will have to meet the sub-borrower eligibility criteria and be mutually agreed upon by ILBANK and the WB. ILBANK will work with sub-borrowers to appraise subprojects. The reports and studies of the proposed subprojects will be reviewed and approved by ILBANK and the Strategy and Budget Office of the Presidency in terms of technical, environmental, social, financial, and economic perspectives and accordance with the WB's E&S safeguard policies.

1.2 Scope of the Project

ILBANK has included the plans of Akçakoca Municipality to build a rooftop SPP to the covered market in the Akçakoca District as one of the subprojects categorized as energy efficiency. ACE Consulting and Engineering Inc. (ACE) has been assigned to prepare E&S reports for this project. The scope of ACE's assignment is as follows:

- Prepare an Environmental and Social Management Plan (ESMP) associated with the risk assessment and anticipated E&S impacts based on the principles set out in the Environmental and Social Management Framework (ESMF) (including Stakeholder Engagement Framework) of ILBANK¹. The ESMP is to cover measures to be taken during construction and operation of the subprojects to avoid, minimize, mitigate, compensate and/or offset the identified adverse impacts, as well as the recommended specific actions, indicators for monitoring and evaluation, institutional responsibilities, reporting arrangements and budget needed to implement these measures covered in the ESMP.

¹ <https://www.ilbank.gov.tr/sayfa/surdurulebilir-sehirler-projesi-ii-ek-finansman>

- 
- Prepare a separate Stakeholder Engagement Plan (SEP) to identify the stakeholders, including the potentially vulnerable/disadvantaged individuals/groups, outline the subprojects communication and engagement strategy as well as introduce tools and measures of engagement and set out the principles of grievance regardless of the Project.
 - Carry out a Public/Stakeholder Consultation Meeting with interested and affected parties and all relevant stakeholders; including the vulnerable/ disadvantaged individuals/groups and analysis of barriers, challenges, constraints to women's participation; about the potential environmental and social impacts and risks associated with the subprojects.

1.3 Scope of ESMP

In line with the objective and targets, the ESMP addresses parameters, methods and criteria to monitor and measure activities and/or conditions. Specific actions are described that Akçakoca Municipality together with the contractor will take in charge to implement the mitigation measures and fulfil the commitments in defined relevant laws, subsequently through allowing and finally through adaptive management in response to monitoring and follow-up. The objective and target of these plans are to avoid, remove, or reduce any adverse E&S impacts/risks to acceptable levels.

The ESMP will cover the activities of the Project, including activities of the contractors, subcontractors and primary suppliers whom the contractor has control or influence over. The level of detail and complexity of the plans is proportional to the expected impacts and risks of the Project.

The ESMP documents the Project's E&S impacts/ risks management strategy. It serves as an "umbrella document" that integrates the findings of all impact studies carried out during, land preparation, construction and operation phases, the plans and other provisions for complying with the requirements of the standards/policies that were triggered as well as country- and site-specific information relevant for the project's management strategy. The ESMP is an integral part of the project proposal.

The ESMP has the following content:

- A brief reference to the legal framework for E&S management;
- Project description including log frame and project activities, location, geographic extent of the project, and any characteristics of the area that are of particular interest (e.g., near a protected area, area of cultural or historical interest);
- E&S baseline of the project area;
- Complete list of identified adverse E&S impacts/risks that specific project activities may cause and their significance;



- Planned mitigation measures to avoid adverse environmental and/or social impacts/risks, minimize them to acceptable levels or compensate them; including responsibilities (staffing) and schedule for implementing the mitigation measures;
- Planned monitoring activities to follow adverse environmental and/or social impacts/risks and measuring the effectiveness of the mitigation measures, including responsibilities (staffing) and schedule for implementing the monitoring activities;
- Description of the executing entities' capacity to implement the ESMP and their responsibilities; where needed, provide for capacity building measures (to be included in the ESMP budget);
- Activities for the stakeholder consultation with the project-affected groups and non-governmental organizations (NGOs) during the ESMP process.

This ESMP provides measures intended to be sufficient, feasible, and sustainable for mitigating the impacts. There are instances where a mitigation measure is already conceptualized as an activity in the project's main implementation plan. Such activities are still included in the ESMP along with all other mitigation measures to provide an overall picture of the project's mitigation strategy and to be able to check the list of mitigation measures against the identified risks and impacts.

E&S monitoring provides information on significant E&S issues, especially on the efficiency of measures taken, and E&S impacts/risks of the project at the implementation stage of the project. Such information enables the assessment of the success of the efforts that are part of project supervision for the Project Owner and supervision mechanism and allows proper action whenever necessary. Therefore, the ESMP defines the purposes of monitoring, types of monitoring and defines the indicators, thus establishing project measures criteria.



2 Environmental Policy and Legislation Framework

The national and international regulatory framework and legislation relevant to the Project are presented.

2.1 National Framework

2.1.1 National Environmental and Social Legislation

Turkish Environmental Law (No: 2872), which came into force in 1983 (Official Gazette (OG) dated 11.08.1983 and numbered 18132), is Türkiye's primary framework for environmental legislation and is supported by a series of regulations that have been developed in line with national and international initiatives and standards, and some of them have been revised recently to be harmonized with the European Union (EU) Directives in the scope of pre-accession efforts of Türkiye.

Labor, health, and safety issues are collectively ruled by the Labor Law (No. 4857) (OG dated 10.06.2003 and numbered 25134), Occupational Health and Safety Law (Law No. 6331), and associated regulations.

The Law on Right to Access to Information (No: 4982) (OG dated 24.10.2003 and numbered 25269) and Law on the Use of the Right to Petition (No: 3071) (OG dated 10.11.1984 and numbered 18571) are the relevant laws allowing individuals to exercise their right of information and their right to make applications to competent authorities related to their requests and complaints, respectively.


Environmental Impact Assessment Regulation

Article 10 of the Environmental Law sets the framework for the Environmental Impact Assessment (EIA) procedure in Türkiye, indicating that institutions, agencies, and establishments that lead to environmental problems due to their planned activities are obliged to prepare an EIA Report or a Project Information File (PIF). The Environmental Impact Assessment (EIA) Regulation (OG numbered 31907 and dated 29.07.2022) governs the environmental impact assessment of investment projects in Türkiye and is largely in line with the EU Directive on EIA.

Screening

The EIA Regulation classifies projects into two categories

- **Annex I projects.** These are projects that have significant potential impacts and require an EIA. Annex I of the EIA Regulation lists these project types, where project proponents are expected to start the EIA procedure without any other screening process.

- 
- **Annex II projects.** These are projects that may or may not significantly affect the environment. Annex II of the EIA Regulation lists these project types. Proponents of Annex II projects are required to submit a Project Identification File (PIF) to the Provincial Directorate of Environment, Urbanization and Climate Change (PDEUCC). The PIF is prepared following the General Format for PIF provided in Annex IV of the EIA Regulation and contains information on (i) project characteristics; (ii) project site and existing environmental characteristics of the impact area; and (iii) significant environmental impacts of the project during construction and operation phases and measures to be taken. A non-technical summary of the above items is also to be added to the PIF. Based on the PIF and the Selection and Elimination Criteria specified in Annex IV of the EIA Regulation, PDEUCC determines whether an EIA is necessary or not.

Public Information and Participation Meetings

For projects that require the preparation of an EIA, the Governorate is required to inform the public that a project application has been submitted in a specified locality, that the EIA process has begun, and that the public may submit its comments and suggestions to the Governorate or Ministry of Environment, Urbanization and Climate Change (MEUCC). It is essential to make a publication at least ten (10) days before the Public Information and Participation Meeting with the date, location, and name of the relevant Project. The announcement is made using a variety of methods, including the internet, bulletin boards, newspapers, and loudspeaker announcements. MEUCC informs the public of the same through the internet.

A formal public information and participation meeting occurs for Annex I projects that are subject to an EIA after the screening process and prior to scoping. The project proponent organizes a “public information and participation meeting” chaired by PDEUCC in a location where affected local groups can access easily. The invitation to the meeting is published in a national and a local newspaper at least ten days prior to the meeting.

For Annex II projects, which are subject to preliminary EIA via a PIF, there is no requirement for public information and participation meeting. The PDEUCC will inform the public about the decision through announcement in their website.

Scoping

The project proponent presents a project dossier (EIA application file using the EIA outline (Annex III of the EIA Regulation) for Annex I projects) to a commission, which comprises representatives of MEUCC and relevant organizations as identified by MEUCC. A Stakeholder Engagement Plan has to be prepared as an annex to the EIA Application File. Based on the information submitted and the views and suggestions received from the public, the commission determines the scope of the EIA and issues the “project-specific format” for the EIA report to be prepared.



Review and Approval of the EIA Report

The commission reviews the draft version of the EIA report prepared using the project-specific format issued. A final EIA report, which incorporates the commission's assessments, is then submitted to the MEUCC for final review. MEUCC gives the decision whether the "EIA is positive," in which case the project proponent may implement the project, or "EIA is negative," in which case the project may not go forward.

Disclosure

The draft EIA report is made available to the public for comments at MEUCC or the Provincial Directorate. After MEUCC's final evaluation of the EIA report, the Governorate announces to the public MEUCC's decision together with its justifications.

Monitoring and Inspection


According to the EIA Regulation, MEUCC monitors and inspects projects that were assessed to be either "EIA not required" or "EIA is positive" based on provisions specified in the PIF or the EIA, respectively.

This Project is **exempt from an EIA study** according to the repealed EIA Regulation. The EIA exemption letter dated 23rd September 2020 was received from the PDEUCC by the Project Owner accordingly (see Annex-3). This letter should be still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed.

The main relevant legislation is listed below but not limited to:


National Legislation on Environment

- Environmental Law No: 2872; Official Gazette (OG) Date/Number: 11.08.1983/18132;
- Environmental Impact Assessment Regulation; OG Date/Number: 29.07.2022/31907;
- Regulation on Environmental Permits and Licensing; OG Date/Number: 10.09.2014/29115;
- Environmental Auditing Regulation; OG Date/Number: 12.06.2021/31509;
- Exhaust Gas Emission Control Regulation; OG Date/Number: 11.03.2017/30004;
- Air Pollution Control Regulation Originating from Heating; OG Date/Number: 13.01.2005/25699;
- Water Pollution Control Regulation; OG Date/Number: 31.12.2004/25687;
- Waste Management Regulation; OG Date/Number: 02.04.2015/29314;

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- Regulation on Control of Waste Electrical and Electronic Equipment; OG Date/Number: 22.05.2012/28300;
 - Regulation on the Management of Waste Oils; OG Date/Number: 21.12.2019/30985;
 - Regulation on Control of Waste Vegetable Oils; OG Date/Number: 6.06.2015/29378;
 - Medical Waste Control Regulation; OG Date/Number: 25.01.2017/29959;
 - Regulation on the Control of Packaging Wastes; OG Date/Number: 21.12.2017/30283;
 - Regulation on the Control of Waste Batteries and Accumulators; OG Date/Number: 31.08.2004/25569;
 - Regulation on the Control of End-of-Life Tires; OG Date/Number: 25.11.2006/26357;
 - Zero Waste Regulation; OG Date/Number: 12.07.2019/30829;
 - Communique on Recycling and Recovery of Certain Non-Hazardous Wastes; OG Date/Number: 17.06.2011/27967;
 - Regulation on Control of Excavated Soil, Construction, and Demolition Wastes; OG Date/Number: 18.03.2004/25406;
 - Regulation on the Assessment and Management of Environmental Noise; OG Date/Number: 04.06.2010/27601;
 - Regulation on Environmental Noise Emission Created by Equipment Used in Open Area (2000/14/AT); OG Date/Number: 30.12.2006/26392;
 - General Sanitation Law No: 1593; OG Date/Number: 06.05.1930/1489;
 - Regulation on Assessment and Management of Air Quality; OG Date/Number: 14.6.2014/29030;

National Legislation on Health and Safety

- Regulation on Procedures and Principles of Health and Safety Training of Employees; OG Date/Number: 15.05.2013/28648;
- Regulation on Duties, Authorizations, Responsibilities, and Training of Occupational Health and Safety Experts; OG Date/Number: 29.12.2012/28512
- Regulation on Occupational Health and Safety Services; OG Date/Number: 29.12.2012/28512;
- Regulation on Occupational Health And Safety Risk Assessment; OG Date/Number: 29.12.2012/28512;

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- Regulation on Use of Personal Protective Equipment in Workplaces; OG Date/Number: 02.07.2013/28695;
 - Regulation on Health and Safety Signs; OG Date/Number: 11.09.2013/28762;
 - Regulation on the Protection of Employees from Noise Related Risks; OG Date/Number: 28.07.2013/28721;
 - Regulation on Protection of Employees from Vibration Risks; OG Date/Number: 22.08.2013/28743;
 - Regulation on Control of Dust; OG Date/Number: 05.11.2013/28812;
 - Regulation on Machinery Safety; OG Date/Number: 03.03.2009/27158;
 - Regulation on Protection of Buildings from Fire; OG Date/Number: 19.12.2007/26735;
 - Regulation on Emergencies at Workplaces; OG Date/Number: 18.6.2013/28681;
 - First Aid Regulation; OG Date/Number: 29.07.2015/29429;
 - Regulation On Health And Safety Measures In Working With Asbestos; OG Date/Number: 25.01.2013/28539;
 - Regulation On Safety Data Sheet On Harmful Substances And Mixture; OG Date/Number: 13.12.2014/29204;
 - Occupational Health And Safety Regulation In Construction Works; OG Date/Number: 05.10.2013/28786;
 - Health And Safety Regulations For The Use Of Work Equipment; OG Date/Number: 25.04.2013/28628;
 - Regulation on Duties, Authorities, Responsibilities and Trainings of Workplace Physicians and Other Health Personnel; OG Date/Number: 20.07.2013/28713;
 - Regulation on Water Intended for Human Consumption OG Date/Number: 17.02.2005/25730.

National Legislation on Law on Private Security Services

- Regulation on Implementation of the Law on Private Security Services; OG Date/Number: 07.10.2004/25606.

National Legislation on Labor Management

- Labor Law No. 4857; OG Date/Number: 10.06.2003/25134;
- Regulation on Sub-Contractors; OG Date/Number: 27.09.2008/ 27010;
- Regulation on Occupational Health and Safety in Temporary or Fixed-Term Work; OG Date/Number: 23.08.2013/ 28744;

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- Regulation on Working Procedures and Principles of Child and Youth Workers; OG Date/Number: 06.04.2004/25425.

National Legislation on Stakeholder Engagement and Grievance Redress Mechanism

- Right to Information Law. 4982; OG Date/Number: 24.10.2003/25269;
- Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; OG Date/Number: 27.04.2004/25445;
- Use of the Right to Petition Law. 3071; OG Date/Number: 10.11.1984/18571;
- The Law on the Protection of Personal Data; OG Date/Number: 07.04.2016/29677.

National Legislation on Municipality

- Municipality Law No. 5393; OG Date/Number: 13.07.2005/25874

National Legislation on Renewable Energy

- Electricity Market Law No. 6446; OG Date/Number: 30.03.2013/28603
- Regulation on Unlicensed Electricity Production in the Electricity Market; OG Date/number: OG Date/Number: 12.05.2019/30772
- Presidential Decision No. 1044; OG Date/Number: 10.05.2019/30770
- Energy Market Regulatory Authority (EPDK) Board Decision No. OG Date/Number: 20.06.2019/

National Legislation on Traffic

- Highway Traffic Law No. 2918 (OG numbered 18195 and dated 13/10/1983)

National Legislation on Disaster and Emergency

- Building Earthquake Regulation of Türkiye (OG Date/Number: 18.03.2018/30364)

2.2 International Framework

The international rules, regulations and conventions pertinent to the Project is given below.

2.2.1 World Bank Operational Policies

WB OPs triggered by the Project are given in

Table 2-1.



Table 2-1. WB Operational Policies Triggered by the Project


Operational Policy	Triggered	Notes
OP 4.01 - Environmental Assessment	Yes	The construction and operation activities are expected to have E&S impacts/risks.
OP 4.04 - Natural Habitats	No	The Project is not located in any vulnerable area such as environmental protection areas, critical habitats and natural habitats.
OP 4.09 - Pest Management	No	There will be no activities that require pest management.
OP 4.10 - Indigenous Peoples	No	This policy does not apply as there are no people in Türkiye meeting the criteria in OP 4.10 for indigenous.
OP 4.11 - Physical Cultural Resources	No	The project will be constructed above ground. However, there may be underground transmission line alignment. In addition, there are no physical cultural resources in the project area. Chance Find Procedure given in Annex 11 will be implemented during construction. Chance Find Procedure is included in mitigation tables in Section 6.
OP 4.12 - Involuntary Resettlement	No	The SPP will be built on the roof of the existing covered market place, which is located in a public land owned by the Akçakoca Municipality. The market place consists of six (6) sections and the construction of the Project will be undertaken section by section. During construction, the tradesmen selling in the section under construction will be transferred to other sections and if additional space is needed, the existing car park will be partially used. As a result, the Project will not result in loss of livelihoods since the tradesmen will be able to continue their work during construction.
OP 4.36 - Forests	No	The Project has no impacts on forest areas.
OP 4.37 - Safety of Dams	No	No dam or dam- like structure will be constructed nor the project will rely on the performance of an existing dam or a dam under construction within the scope of the Project.
OP 7.50 - Projects on International Waterways	No	The Project area is located within Büyük Melen Project Basin, where Büyük Melen Project Basin is a national waterway, thus the Project does not trigger OP 7.50.
OP 7.60 - Projects in Disputed Areas	No	The Project is not located within any disputed area.

OP 4.01 - Environmental Assessment

Project Categories and Screening

Under the WB’s Operational Policy for Environmental Assessment (OP 4.01), projects are classified as Category A, B and C according to the level of their likely impact on the environment:

- **Category A.** proposed project is classified as Category A if it is likely to have significant adverse E&S impacts/risks (based on type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts). These impacts are generally large-scale, irreversible, sensitive, diverse, cumulative or precedent-setting and may affect an area broader than the sites or facilities financed by the project. For example, Category A projects have one or more of the




following attributes: large-scale conversion or degradation of natural habitats; extraction, consumption, or conversion of substantial amounts of forest, mineral and other natural resources; direct discharge of pollutants resulting in degradation of air, water or soil; production, storage, use or disposal of hazardous materials and wastes; measurable changes in the hydrologic cycle; risks associated with the proposed use of pesticides. Indicative examples in the context of the present project include the construction of a significant new wastewater treatment plant, a new landfill, and rehabilitation of an existing landfill with significant environmental impact.

- **Category B.** proposed project is classified as Category B if the potential impacts on the environment and society are typically site-specific, reversible; less adverse than those of Category A subprojects and for which mitigatory measures can be designed more readily. Projects in Category B sometimes differ only in scale from Category A projects of the same type. For example, large irrigation and drainage projects are usually categorized as A; however, small-scale projects of the same type may be categorized as B. The same can be true for small-scale, relatively clean (gas or light diesel oil-fired) thermal power plants, micro-hydropower plants, and small sanitary landfills. Similarly, projects that finance rehabilitating or maintaining an existing infrastructure may have adverse impacts, but are likely to be less significant compared to a Category A project, and would be categorized as B. Indicative examples include rehabilitation or construction of water supply and/or sewerage network, water treatment plants, wastewater treatment plants which does not include an expansion or new construction, construction of small-scale water treatment plants, urban transport and energy efficiency. Although it has not been specified in the OP, Category B projects divide in two within its structure as Low B and High B projects in practice. Category High B projects have relatively more impacts and mitigation measures compared to Category Low B projects, yet the impacts and mitigation measures are not significant enough to be recognized as Category A projects.
- **Category C.** A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. For example, technical assistance projects in institutional development, computerization and training fall in Category C.

When a WB-funded project involves a series of subprojects, which are selected and funded by a financial intermediary (FI) using WB loan proceeds, the project is classified as Category FI. In such projects, the FI screens and classifies the proposed subprojects as Category A, B, or C following the above definitions and ensures that the borrower carries out the corresponding environmental assessment. Since the current project is an FI project, the following discussion will refer to subprojects only.

No clear-cut border values distinguish the categories or, unlike the national EIA Regulation, any ready lists of project types for categorizing projects as A, B and C; rather projects are screened on a case-by-case basis. Although the categorization of projects is based on the



magnitude of environmental impacts, projects with high-level social risks may also be determinative in categorizing a project.


Scope of Environmental Assessment

For Category A subprojects, the borrower is required to prepare an ESIA which examines the subproject's potential negative and positive environmental impacts as well as its social impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve E&S performance. Analysis of alternatives is a particularly important feature of an ESIA. ESIA also includes an ESMP, which details the measures to be taken during the implementation and operation of a (sub) project to eliminate, reduce or offset adverse E&S impacts/risks, the actions needed to implement these measures as well as monitoring indicators and actions and responsibilities.

The scope of Environmental Assessment (EA) for a Category B subproject may vary from subproject to subproject but is narrower than the ESIA required for Category A. Like Category A ESIA, it examines the subproject's potential negative and positive E&S impacts/risks and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. If the project is recognized as a Category B, this information may be contained in an ESMP only unless site-specific issues necessitate a site-specific assessment in addition to the ESMP. An example is modest scale building construction on a site in an urban area which would normally require only an ESMP if it is known that there are no E&S issues relating to the site. If it is constructed on a green-field site, a simple EA would be needed to clarify whether there are any special environmental or social issues. The project could turn into Category A if EA work shows the likelihood of significant damage to natural habitat or cases where a significant amount of land take is required. On the other hand, if the project is recognized as High B, then a partial EA document or partial ESIA is required to satisfy the expected requirements.

Public Consultation

For all Category A and B subprojects proposed for WB financing, during the EA process, the borrower consults subproject-affected groups and non-governmental organizations (NGOs) about the subproject's E&S aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, consultations with these groups occur at least twice: a) shortly after environmental screening and before the terms of reference for the ESIA are finalized; and (b) once a draft ESIA report is prepared. The borrower provides for the initial consultation a summary of the proposed subproject's objectives, description, and potential impacts related to both E&S issues. For consultation after the draft ESIA report is prepared, the borrower provides a summary of the ESIA's conclusions. For Category B subprojects, at least one consultation is held with affected



groups and local NGOs: once the draft EA report (including ESMP) is prepared. The borrower provides a summary of the EA's conclusions.

In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.

For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B subprojects proposed for WB financing, the borrower provides relevant material (in local language) on time before consultation and in a form and language that is understandable and accessible to the groups being consulted.

Review and Approval of the EA

In FI projects, the responsibility to ensure that OP 4.01 requirements are met rests with the FI. The EA process should normally be completed before the FI approves of a subproject for financing with a WB loan.

Conditionality

In FI projects, the sub-loan agreement between ILBANK and the borrower must include the conditionality for the borrower to implement the ESMP for Category A and B subprojects. The borrower must monitor and ensure that the contractor complies with the provisions of the ESMP. To fulfil its E&S obligation, the borrower may incorporate provisions of the ESMP into the procurement documents and contracts for works. Non-compliance may lead to the suspension of WB funding for the subproject.

Disclosure


In addition to the disclosure requirements specified under “c) Public consultation” above, for Category A subprojects, the FI/municipality must make the draft EIA report in local language publicly available to subproject-affected groups and local NGOs, before the meeting.

When the ESIA of a Category A subproject is finalized, the FI transmits to WB an English language copy of the final report, including an English language executive summary. The Bank distributes the executive summary to its executive directors and makes the report available through its external website.

In the case of Category B subprojects, the FI transmits to WB the final English language Category B EA report and WB makes it available through its external website.

Implementation

During subproject implementation, the FI reports to WB on (a) compliance with measures agreed with the Bank based on the findings and results of the EA and additional social



assessment (if any), including implementation of the ESMP; and (b) the findings of monitoring programs. The Bank bases supervision of the project's E&S aspects on the findings and recommendations of the EA and social assessment, including measures set out in the legal agreements, any ESMP, and other project documents.

This Project is classified as a **Category B** Project according to the WB OP 4.01 since the potential environmental and social impacts of the Project are typically site-specific, reversible in nature, less adverse than those of Category A subprojects, and mitigatory measures can be designed more readily. The details of the impacts and the mitigation measures are discussed in Section 5 and Section 6, respectively.


OP 4.11 - Physical Cultural Resources

As the initial stage of baseline studies, literature and surficial studies will be performed. Depending on these studies, the potential impact on these sources and related mitigation measures are assessed in EA/ESIA. However, due to the nature of physical, cultural resources, buried assets (i.e., graves or mounds) may not be determined during baseline studies. The principal issue is twofold: (i) "chance finds" identification of during construction and (ii) potential impact of the project on known cultural values. Turkish laws, notably Law on the Protection of Cultural and Natural Assets No. 2863 (OG numbered 18113 and dated 21.07.1983) (revised through the amendment issued on OG numbered 25535 and dated 27.07.2004) and practices, meet the WB requirements. The Regulation on Research, Drillings and Excavations in Relation to the Cultural and Natural Assets, which was published in the OG numbered 18485 and dated 10.08.1994, defines the procedures and obligations concerning the cultural and natural assets found out during construction. The municipalities are responsible for the application of the said law and regulation. As part of the regular reporting, the municipalities will inform ILBANK of the historical and cultural findings, if any, as well as the actions are taken. ILBANK is responsible for avoiding or mitigating impacts on the physical or cultural resources of the financed projects. Therefore, ILBANK will not proceed with sub-project funding until all requirements of the Turkish legislation are met.

2.2.2 World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines

The WBG EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). If Turkish regulations differ from the levels and measures stated in these guidelines, the most stringent requirement/standards will apply to the Project for all E&S standards. The General EHS Guidelines are organized as follows:


1. Environmental
 - 1.1 Air Emissions and Ambient Air Quality
 - 1.2 Energy Conservation
 - 1.3 Wastewater and Ambient Water Quality

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- 1.4 Water Conservation
 - 1.5 Hazardous Materials Management
 - 1.6 Waste Management
 - 1.7 Noise
 - 1.8 Contaminated Land
2. Occupational Health and Safety
 - 2.1 General Facility Design and Operation
 - 2.2 Communication and Training
 - 2.3 Physical Hazards
 - 2.4 Chemical Hazards
 - 2.5 Biological Hazards
 - 2.6 Radiological Hazards
 - 2.7 Personal Protective Equipment (PPE)
 - 2.8 Special Hazard Environments
 - 2.9 Monitoring
3. Community Health and Safety
 - 3.1 Water Quality and Availability
 - 3.2 Structural Safety of Project Infrastructure
 - 3.3 Life and Fire Safety (L&FS)
 - 3.4 Traffic Safety
 - 3.5 Transport of Hazardous Materials
 - 3.6 Disease Prevention
 - 3.7 Emergency Preparedness and Response
4. Construction and Decommissioning
 - 4.1 Environment
 - 4.2 Occupational Health & Safety
 - 4.3 Community Health & Safety

In addition to the WBG General EHS Guidelines, WBG EHS Guidelines for Water and Sanitation is also applicable for this project. Moreover, WB Good Practice Note on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH), and WB 2010 Access to Information Policy are other specific guides.

2.2.3 European Union Environment Policy

EU environment policy rests on the principles of precaution, prevention and rectifying pollution at source, and on the “polluter pays” principle. The precautionary principle is a risk management tool that may be invoked when there is scientific uncertainty about a suspected risk to community and occupational health or the environment emanating from a certain action or policy. For instance, should doubts arise about the potentially harmful effects of a product, and should — following an objective scientific evaluation — uncertainty persist, instructions may be given to stop the distribution of the product or to remove it from the market. Such measures must be non-discriminatory and proportionate




and must be reviewed once more scientific information is available. The “polluter pays” principle is implemented by the Environmental Liability Directive, which aims to prevent or otherwise remedy environmental damage to protected species or natural habitats, water and soil. Operators of certain occupational activities such as the transport of dangerous substances, or activities that imply discharge into waters, have to take preventive measures in case of an imminent threat to the environment. If damage has already occurred, they are obliged to take the appropriate measures to remedy it and pay for the costs. The scope of the directive has been broadened three times to include the management of extractive waste, the operation of geological storage sites, and the safety of offshore oil and gas operations, respectively.

Certain projects that are likely to have significant effects on the environment, e.g., the construction of a motorway or an airport, are subject to an EIA. Equally, a range of public plans and programs (e.g., land use, transport, energy, waste or agriculture) are subject to a similar strategic environmental assessment process (SEA). Here, environmental considerations are already integrated at the planning phase, and possible consequences are taken into account before a project is approved or authorized to ensure a high level of environmental protection. In both cases, consultation with the public is a central aspect. This goes back to the Aarhus Convention, a multilateral environmental agreement under the auspices of the United Nations Economic Commission for Europe (UNECE), which entered into force in 2001 and to which the EU and all its Member States are parties. It guarantees three rights to the public: public participation in environmental decision-making, access to environmental information held by public authorities (e.g., on the state of the environment or of community and occupational health where affected by the former), and the right of access to justice where the other two rights have been disregarded. Monitoring is crucial — both state of the environment and the level of implementation of EU environmental law.

2.2.4 International Conventions and Agreements related to Environment to which Türkiye is a Party

Türkiye has ratified several international conventions and agreements to environmental conservation. Those conventions and agreements that are of relevance to the Project to which Türkiye is a party of are listed below:

- International Convention for the Protection of Birds, Paris 1959 (OG dated 17.12.1966, and numbered 12480)
- Convention for the Establishment of the European and Mediterranean Plant Protection Organization (Amended), Paris 1951 (Türkiye, OG dated 01.07.1965 and numbered 12037)
- European Cultural Convention 19.12.1954 (OG dated 17.6.1957, and numbered 9635)
- Convention on the Protection of the World Cultural and Natural Heritage, Paris 1972 (OG dated 14.2.1983, and numbered 17959)

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- Convention for the Conservation of European Wildlife and Natural Habitats, Bern 1979 (OG dated 20.2.1984, and numbered 18318)
 - Convention for the Protection of the Mediterranean Sea against Pollution, Barcelona 1976 (OG dated 12.6.1981, and numbered 17368)
 - Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Athens 1980 (OG dated 18.3.1987, and numbered 19404)
 - Protocol concerning Mediterranean Specially Protected Areas, Geneva 1982, (ratified on 6.11.1986) (OG dated 23.10.1988, and numbered 19968)
 - Convention on Long-range Transboundary Air Pollution, Geneva 1979 (Turkish OG dated 23.3.1983, and numbered 17996)
 - Additional Protocol on Long-term Financing of the Co-operative Program for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), 1979, to the Convention on Long-range Transboundary Air Pollution, Geneva 1984, (OG dated 23.7.1985, and numbered 18820)
 - Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances Depleting the Ozone Layer, (OG dated 8-9.9.1990, and numbered 20629)
 - Convention on Biological Diversity, Rio de Janeiro, 5.6.1992 (OG dated 27.12.1996 and numbered 22860)
 - Convention on Wetlands of International Importance, especially as Waterfowl Habitat (RAMSAR), (OG dated 17.5.1994, and numbered 21937)
 - CITES Convention on International Trade in Endangered Species of Wild Flora and Fauna, (OG dated 20.06.1996)
 - European Landscape Convention (Florence, 2000) (OG dated 27.07.2003 and numbered 25181)
 - Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), 2001 (OG dated 04.04.2017 and numbered 30028)
 - ILO Convention on Forced Labour (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 Labour (1957),
 - ILO Convention on Discrimination (Employment and Occupation) (1958),
 - ILO Convention on Minimum Age (1973),
 - ILO Convention on Worst Forms of Child Labour (1999).

3 Project Description

This chapter provides the information on the project location and characteristics, which were collected from the Project Identification Document (PID) prepared by Eptisa Engineering Services (Eptisa) [1]. The categorization of the Project per national and international requirements is included at the end of the chapter.

3.1 Project Location

The Project is planned to be implemented in the Osmaniye Neighborhood of Akçakoca District of Düzce Province in Türkiye. The solar power plant (SPP) will be built on 8,700 m² of the covered market's rooftop located in "Fanderesi Locality Block No. 103 Parcel No. 60" belonging to the Akçakoca Municipality. The title deed of the land is provided as Annex 4 of this ESMP. Stalls sell a variety of vegetables and fruits and also clothes, home textile products and other accessories since 1990 in the market place. The project site is in the south of Akçakoca District, and the satellite view of the project location is presented in Figure 3-1.

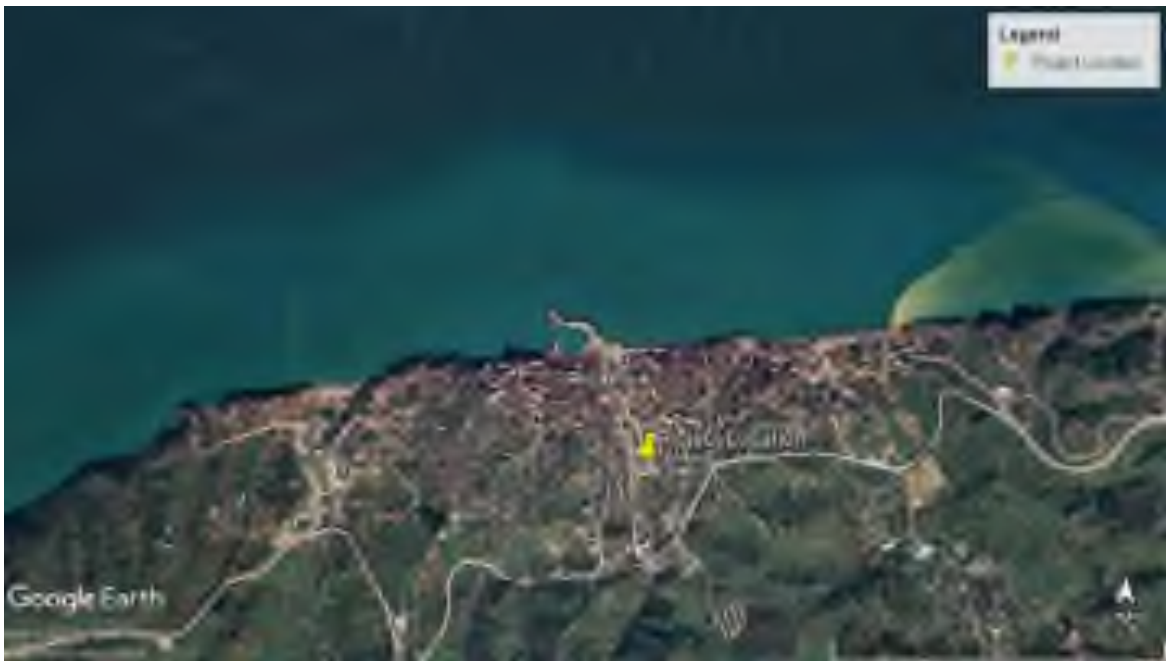


Figure 3-1. Satellite View of the Project Location

The project area is in the "Urban Settlement Area" according to the 1/100,000 scale Environmental Plan of Düzce Province and the Zoning Plan submitted by the Akçakoca Municipality. There are mainly residential and commercial areas nearby the Project area. Orhan Creek at the west and a hazelnut garden at the south are adjacent to the Project area. A school (Akçakoca İmam Hatip Secondary School) is located approximately 50 m northeast (see Figure 3-2).



Figure 3-2. Sensitive Receptors around the Project Area

The nearest protected area around the Project is an urban protected area approximately 1.5 km west. Historical wooden houses considered cultural heritage monuments are located 1 km west of the Project location.

The SPP will be built on the roof of the existing covered marketplace. The marketplace is on public land owned by the Akçakoca Municipality; therefore, no settlement and/or economic activity will be impacted, and no Resettlement Action Plan (RAP) is required within the Project scope. Ancillary facilities (temporary worksite, storage area, dining hall and small facilities (containers, etc.) for eating, resting) will be located at the south of the covered market during construction. Accommodation services are not anticipated for workers. Furthermore, no concrete batching plant will be installed since ready-mix concrete will be used.

The photographs of the project area taken during the site visit dated 17th of June 2022 by the Consultant are provided in Annex 10 of this ESMP.

3.2 Project Characteristics

This Project is the construction of a rooftop photovoltaic (PV) SPP on the covered market in Osmaniye Neighborhood, Akçakoca District of Düzce Province in Türkiye. The Project is within the scope of SCP-II AF. An underground ETL will also be built for the SPP's electrical connection to the grid of SEDAŞ from Koçak Eski Sanayi Distribution Center (DM) 4006. The Project aims to produce electricity in a manner to protect environment as well as provide economic development by utilizing solar energy as a renewable energy resource instead of fossil fuels. Since the land is owned by Akçakoca Municipality, there will be no land acquisition within the scope of the Project.



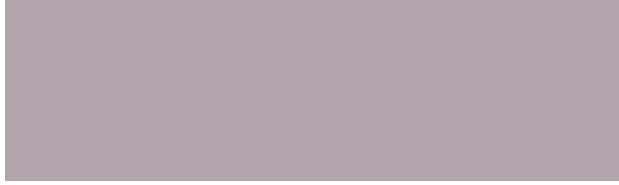
The market place is a place that stalls sell variety of vegetables and fruits and also clothes, home textile products and other accessories since 1990. There is no other activity in this area other than market establishment. The place consists of six (6) sections and serves 192 stalls. The market place is open each Tuesday between 5 am to 8 pm including the installation and removal of stalls. The shopping time is between 8 am to 6:30 pm. Within the market place service area, 1370 citizens are living, and approximate number of visitors is 700 people in each Tuesday.

The construction of the Project will be undertaken section by section. The section under construction will be closed by appropriate barriers. During construction, the tradesmen selling in the section under construction will be transferred to other sections and if additional space is needed, the existing car park will be partially used. As a result, the Project will not result in an economic displacement since the tradesmen will be able to continue their work during construction.

The responsible parties of the project are the Project Management Unit (PMU) of ILBANK implementing the Project as Borrower, WB and EU providing technical and financial support as Lenders, Akçakoca Municipality, who is the Project Owner, in other words, the Sub-borrower of the project, Supervision Consultant assisting the Akçakoca Municipality, the Contractor to be awarded for the project activities and also the Environmental and Social (E&S) Consultant, the ACE Consulting and Engineering Inc., who is responsible for preparing the E&S impact and risk assessment study reports, i.e. ESMP and SEP.

The total electricity consumption of the facilities to be associated with the SPP was 1,613,280 kWh in 2021. The project consists of 1,080 kW (1,474.2 kWp) installed capacity, and the SPP is expected to produce 1,719,000 kWh/year electricity. The energy produced will be used in the marketplace and the excess of the energy produced will be transferred to the Sakarya Electricity Distribution Corporation (SEDAŞ) by the Akçakoca Municipality for a fee.

Article 5/1/c of Regulation on Unlicensed Electricity Generation in the Electricity Market (published in the Official Gazette dated 12.05.2019 and numbered 30772) specifies that "The generation facilities based on renewable energy resources with an installed capacity of one megawatt or up to the upper limit of installed capacity determined by the President of the Republic of Türkiye within the framework of Article 14 of the Law, will be able to establish generation facilities free from the obligation to establish a company with pre-license and license.". Based on this article Akçakoca Municipality has been made the application of unlicensed energy generation to the Sakarya Electricity Distribution Corporation (SEDAŞ) on 28th of October 2020. The "Call Letter" to unlicensed energy generation connection was received from Sakarya Electricity Distribution Corporation (SEDAŞ) on 17th December 2020 (see Annex 1), and the project acceptance/approval process has been completed. The Connection Agreement between the Akçakoca Municipality and SEDAŞ was signed on 22nd March 2021 (see Annex 2).



The proposed Project includes the reinforcement works on the rooftop and columns based on the static project to be revised by the technical consultant to be appointed before the tender phase of the Project, and the installation of the SPP. The type of roof on the covered market is pitched with 12% rake and most likely asbestos-containing membrane material (see Figure 3-3). During the handling of asbestos-containing roof material, Turkish Regulation on Health and Safety Measures for Working with Asbestos will be strictly followed. Works including asbestos removal will be done under the supervision of an “asbestos removal expert”, who has a vocational training certificate. Asbestos-containing roof material wastes will be collected separately from other wastes and disposed of according to the Waste Management Regulation provisions that will include transport to licensed Class I landfills with licensed trucks.



Figure 3-3. View of the Covered Market

Within the scope of installation works, aluminum profiles will be mounted on the sandwich panel used as a roof covering with the help of screws for panel montage. The transformer building will be relocated, and an underground ETL with a total of 350 m length and 34.5 kV voltage level will be constructed for the electrical connection of the SPP to grid of SEDAŞ from Koçak Eski Sanayi DM 4006. Then, the generated electricity will be transferred to the national energy distribution system.

In the current TEDAŞ Project approved for the Akçakoca Municipality, the fixed angle rooftop system with 0.02 m panel distance and equipped with 1,287 kWp Direct Current (DC) Capacity, 1,100 kWp Alternating Current (AC) Capacity limited to 1,080 kWp, 12 Degree Angle, -98 and 82 Azimuth, 325 Wp MonoPerc 60 cell modules and 110 kWp string



inverters are used. In simulations carried out by Eptisa and reported in the PID, the fixed angle rooftop system with 0.02 m panel distance and equipped with 1,474.2 kWp DC Capacity, 1,100 kWe AC Capacity limited to 1,080 kWe, 12 Degree Angle, -98 and 82 Azimuth, 455 Wp MonoPerc HalfCut 72 (144) cell modules and 110 kWe string inverters was found to be the best performing option.

The technical characteristics of the Project and information on grid connection are given in Table 3-1 and Table 3-2, respectively.

Table 3-1. Technical Characteristics of the Project

Number of PV panels	3,240
Capacity of each PV panel	455 Wp
Number of inverter	10
Capacity of each inverter	110 kW
Type of montage	Rooftop Constant-Angle

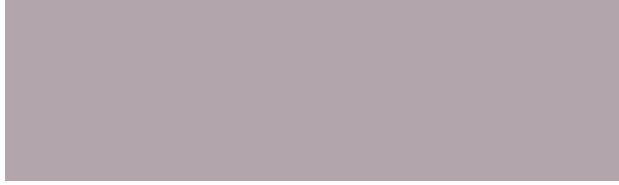
Table 3-2. Information on Grid Connection

Transformer	1,250 kVA (Available)
Energy Transmission Line (ETL)	1×95 XLPE Copper Cable (New)
The distance of the ETL to the inverter	350 m
Voltage level	34.5 kV

The installation plan of the project is shown in Figure 3-4.



Figure 3-4. Installation Plan



A period of three (3) months is foreseen for the installation of the project on site, but a period of seven (7) months for the total contract and construction process. The predicted project progress timing is as follows:

- Seven (7) months for Consultant Selection for Design Review and Construction Control,
- Three (3) months for Design Review and Revisions (by consultant),
- Six (6) months for bid preparation, bidding and bid evaluation,
- Seven (7) months for contract signing and construction,
- Ten (10) months is foreseen for the Defect Reporting Period.

The number of workers to be employed during the construction phase is 50. The SPP will be operated by five (5) personnel consisting of electrical technicians from Akçakoca Municipality.

During the operation phase of the Project, cleaning/washing will be conducted periodically on the solar panels to prevent them from being adversely affected by dust and temperature leading to a decrease in efficiency. The water need will be provided from the municipal water source located north of the covered market and brought to the site via tanks.

This project is **exempt from an EIA study** according to the repealed EIA Regulation. The EIA exemption letter dated 23rd September 2020 was received from the Düzce PDEUCC by the Project Owner accordingly. This letter is still valid according to the latest EIA Regulation (OG numbered 31907 and dated 29.07.2022) as the conditions for the exemption have not changed. According to WB OP 4.01 for Environmental Assessment, the project is classified as a **Category B** Project.



4 Environmental and Social Baseline

This chapter briefly summarizes the E&S baseline conditions within the Project's Area of Influence (AoI). WB OP 4.01 defines AoI as the area likely to be affected by the project, including all its ancillary aspects and unplanned developments induced by the project. Thus, the AoI, which is valid for all environmental and social impacts, was defined as follows:

- The major areas, facilities, and communities potentially to be affected by the Project are listed below:
 - Covered market on which the SPP will be constructed,
 - Residential (16 m east), commercial (36 m southwest) and educational areas (32 m northeast) nearby the project area in Osmaniye Neighborhood (see Figure 3-2),
 - Orhan Creek adjacent to the project area,
 - Hazelnut garden adjacent to the project area,
 - Access roads to the project area,
 - Waste disposal areas/facilities to be used during the construction and operation phases of the Project, including excavated material disposal areas and licensed waste disposal facilities.
- Based on the information provided by the Akçakoca Municipality, there are no ancillary facilities as part of the Project; no concrete batching plant will be installed, but ready-mix concrete will be used.

Baseline data collection was mainly conducted through desktop studies. The baseline has been presented initially for Düzce Province and subsequently for the Akçakoca District when the data was available and pertinent to the Project development. The project site has been visited by the Consultant on 17th of June 2022. In addition, phone interview was conducted on 27th of December 2022 with the headman of Osmaniye neighborhood where the Project will be realized.

4.1 Environmental Baseline

4.1.1 Geography

Düzce Province is in the western Black Sea Region. It was formerly a district within the Bolu Province. It was established as a province on December 9, 1999, after the major earthquakes of August 17 in Gölçük District and November 12, 1999, in Düzce Province [2]. The location of Düzce Province is given in Figure 4-1.



Figure 4-1. Düzce Province Location [3]

The province has 400,976 inhabitants [6] in an area of 2,492 km². The population density is 160.9 inhabitants/km². Düzce Province is divided into eight (8) districts as shown in Figure 4-2 as Akçakoca, Çilimli, Cumayeri, Düzce (Central District), Gölyaka, Gümüşova, Kaynaşlı and Yiğilca [4]. The Project will be developed in the Akçakoca District.



Figure 4-2. Districts of Düzce Province [5]

Düzce Province has a 28 km long coastline in the Black Sea in the north (see Figure 4-3). The territory of the Province consists of areas surrounded by mountains, except for the coastal part. There are Akçakoca Mountains in the northern part, Bolu Mountains in the eastern part, and Elmacık Mountains in the southern part. Düzce Plain located at the center of the Province, is of utmost importance in terms of agricultural activities [2].



Figure 4-3. Satellite View of Düzce Province

The Akçakoca District boundaries are shown in Figure 4-4. It is the westernmost part of the Western Black Sea geographical region and the only seaside district of Düzce Province with a 28 km coastline. Akçakoca District is traversed by the Trans European Motorway (TEM), 270 km from Ankara Province and 243 km from Istanbul Province. Akçakoca District is 37 km from the center of Düzce Province [2].

The district has a population of 39,500 compared to 2021, with 27,490 people living in urban areas and 12,010 in rural areas [6]. Today's population is doubled in the summer months due to tourism activities and cottage owners. The total surface area of the district is 463 km² and approximately 40% of the total land consists of forest areas and hazelnut gardens [2].

Osmaniye Neighborhood is at the south of the Akçakoca District and the SPP is planned to be constructed in the covered market located in this neighborhood. The project area is shown in Figure 4-5.

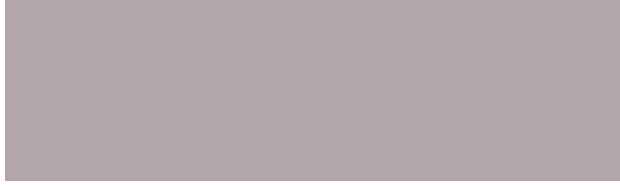


Figure 4-4. Satellite View of Akçakoca District

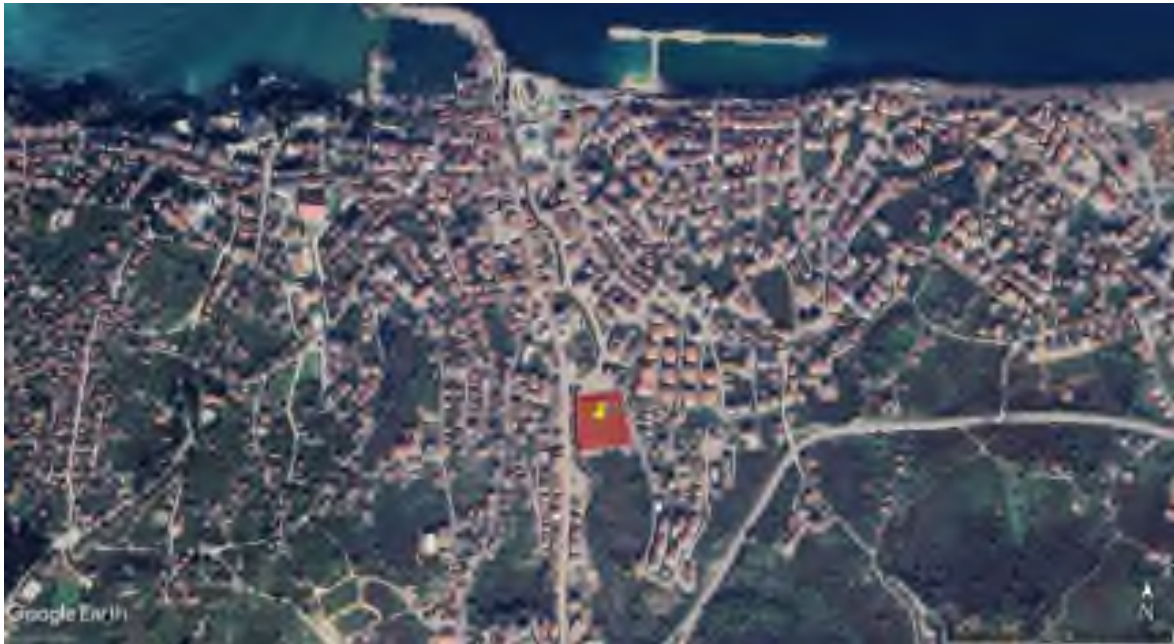


Figure 4-5. Project Area

4.1.2 Topography and Geology

Düzce Plain forming the mid-section of the Düzce basin, presents a low inclined topography toward the southwest (toward Lake Eftani). The drainage network, which has developed based on the morphology of the basin, has northeast-southwest and east-west flows. Küçük Melen River and Asarsuyu Creek drain the surface waters of the basin into Lake Eftani whereas Büyük Melen River subsequently discharges the waters of Lake Eftani to the Black



Sea with a south-north flowing direction. The hydrological and morphological features of the basin are the result of the intense tectonic activity that controls the basic structure and the overall slope of the plain. The geological map of the Düzce Basin and its surroundings is given in Figure 4-6. [7]

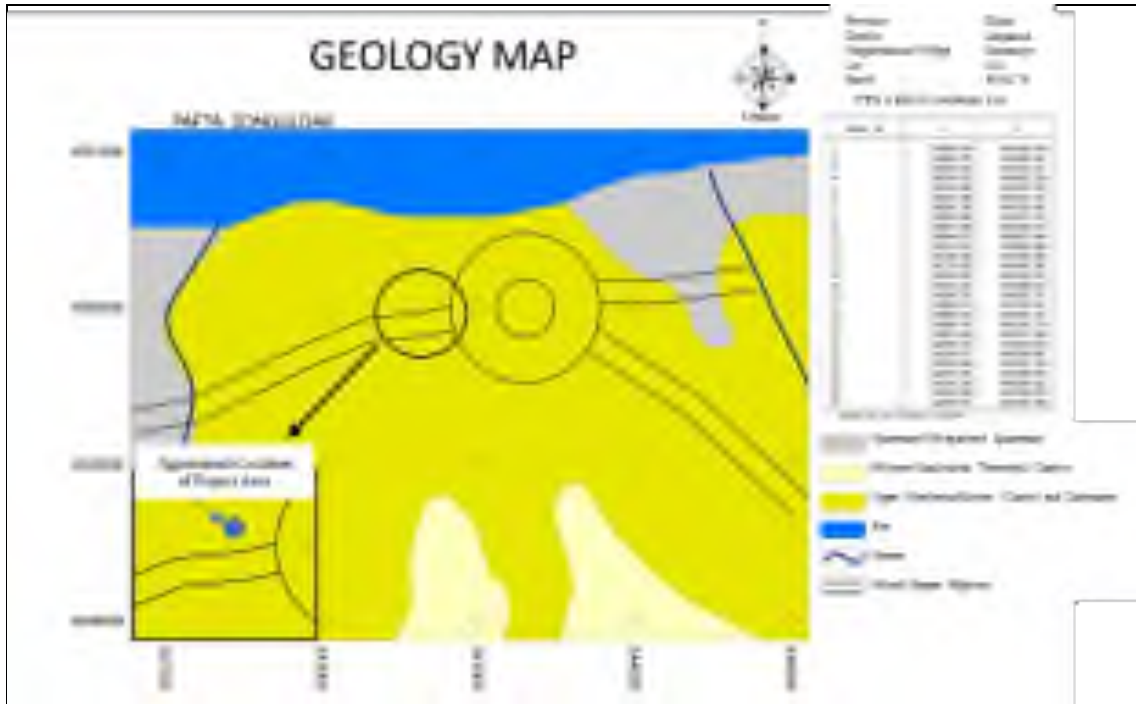
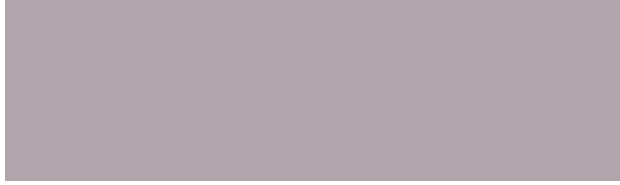


Figure 4-6. Geological Map of the Düzce Basin [7]

The base rock of the region consists of a group of Precambrian Magmatic and Metamorphic rocks (Z). Schists and granitic rocks are the base rocks on which there is a thick sedimentary sequence. The sequence starts with the Ordovician sedimentary rocks, which consist of arkose and conglomerate (O). Alternating Triassic sandstone and conglomerate rocks (TR) overlay the Ordovician rocks outcrop in the east of the basin. Cretaceous limestone-marl intercalations (K) on the Triassic rocks are widely observed in the region. Tertiary volcano-sedimentary rocks (T) with flysch character were deposited in some places on the Cretaceous rocks. The volcano-sedimentary unit consists of intercalated basalt-andesite, marl, and sandstone lithologies. Basalts and andesites are the dominant lithologies in the southwestern part of the region. The youngest unit is the alluvium deposited in the basin. The thickness and lithologic variations of the alluvium depend on tectonic settings that directly affect the morphology and geometry of the basin. The alluvial fan deposits (Qal-f) on the north and south slopes of the mountains, channel and flood plain deposits (Qal-cf) in the impact areas of Küçük Melen and Büyük Melen rivers and Asarsuyu Creek, and lacustrine-playa deposits (Qal-p) around Lake Eftani were deposited under the effects of tectonic forces. The alluvial fan deposits consist of gravel-sand, the channel and flood plain deposits containing sand-gravel with clay lenses, and the lacustrine-playa deposits are composed of clay-silt type sediments. [7]



4.1.3 Hydrology and Hydrogeology

Surface Water

The main rivers in Düzce Province are the Küçük Melen, Asar Water, Uğur Water, Aksu Creek and Büyük Melen Stream. Melen Water Collection Basin constitutes the Büyük Melen Project basin, which provides drinking water to Istanbul Province. Except for the Akçakoca District, the province is within the Büyük Melen Project Basin. All of the streams located in the area outside the coastal part of Akçakoca District of Düzce Province belong to the Melen Basin, or Efteni Basin, which is a sub-basin of the Western Black Sea basin [2].

The project area does not cross any streams. However, a stream (Orhan Creek) adjacent to the Project area (approximately 20 m west) (see Figure 3-2) discharges to the Black Sea 850 m north of the Project.

The main lakes in Düzce Province are Efteni Lake, Kuru Lake, Topuk Plateau Pond, Çamlıpınar Lake, Torkul Lake, Karagöl, Yayla Lake, Salık Lake and Sülüklü Lake [2]. There are no lakes within the Project area.

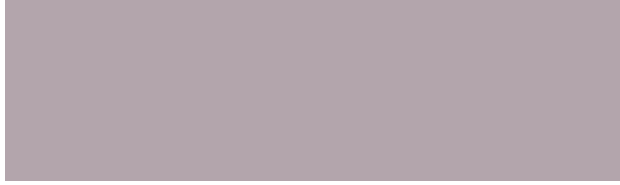
The Hasanlar Dam is the only dam in Düzce Province and is located on Küçük Melen near Yığılca District and was completed in 1992 [2]. There are no dams within the Project area.

The Uğur Suyu Stream's surface water resource was commissioned in 1994 and started to meet the province's water needs. The Stream is located 9-10 km southwest of the Province. The stream water taken from Düzce Province is conveyed to the drinking water treatment plant in Beyköy by gravity via a transmission line of approximately 6.5 km. For the chemical treatment, aluminum sulfate solution is dosed in the raw water to improve the properties, sulphuric acid against microorganisms present in the water, and chlorine for disinfection. After being chemically treated at the treatment plant, the water is fed into the city water supply network. The total network length is 830 km [2].

Water needs within the Project scope will be supplied from the municipal water source located at the north of the covered market.

Groundwater

The groundwater resources were being used for drinking water supply until 1994 when the Uğur Suyu Stream's surface water resource started to meet the province's water needs. The important aquifer unit in the Düzce Basin is the alluviums extending along the rivers and Düzce plain alluvium. Considering the Büyük Melen Basin in Düzce Plain; the groundwater level is between 0.5 and 5 m in the upper unconfined aquifer, and it is artesian in the confined aquifer below. The amount of groundwater used in the province in 2018 is 20,000 tons/year [2].



In Akçakoca-Kocaali Basin, however, there are not an adequate number of wells to establish the groundwater level distribution. Since the basin topography is very undulated, it is estimated that there may be large variations in groundwater levels depending on the quota and hydrogeological conditions. The groundwater level in the valley alluvium is between 0.5 and 5 m [2].

4.1.4 Seismicity

Düzce Basin is structured as a graben-like basin, formed by the activities of the North Anatolian Fault. The active Gölyaka-Eftani-Beyköy Fault bounds the basin in the south and the Çilimli-Konuralp Fault in the north. These faults are part of the south and north segments of the North Anatolian Fault and they are the main elements shaping the morphology of the region [7]. The North Anatolian Fault is one of Türkiye's most important active faults. Starting from the Karlıova Region in the east, it traverses the northern half of Türkiye in the east-west direction. This fault is observed in a narrow zone consisting of single fractures until the Bolu Region, forks in the west of Bolu (Dokurcun valley) Region and extends towards the Marmara Sea by dividing into two main branches. In Sakarya-Düzce Region, Hendek and Düzce faults also join the North Anatolian Fault system, and the width of the fault zone reaches 40 km [9].

According to the Earthquake Hazard Map of Türkiye published by Disaster and Emergency Management Presidency (AFAD), which came into effect on February 1, 2019, the Düzce Region is a high-risk earthquake region. The hazard map of Türkiye and representation of the Project area is given in Figure 4-7.

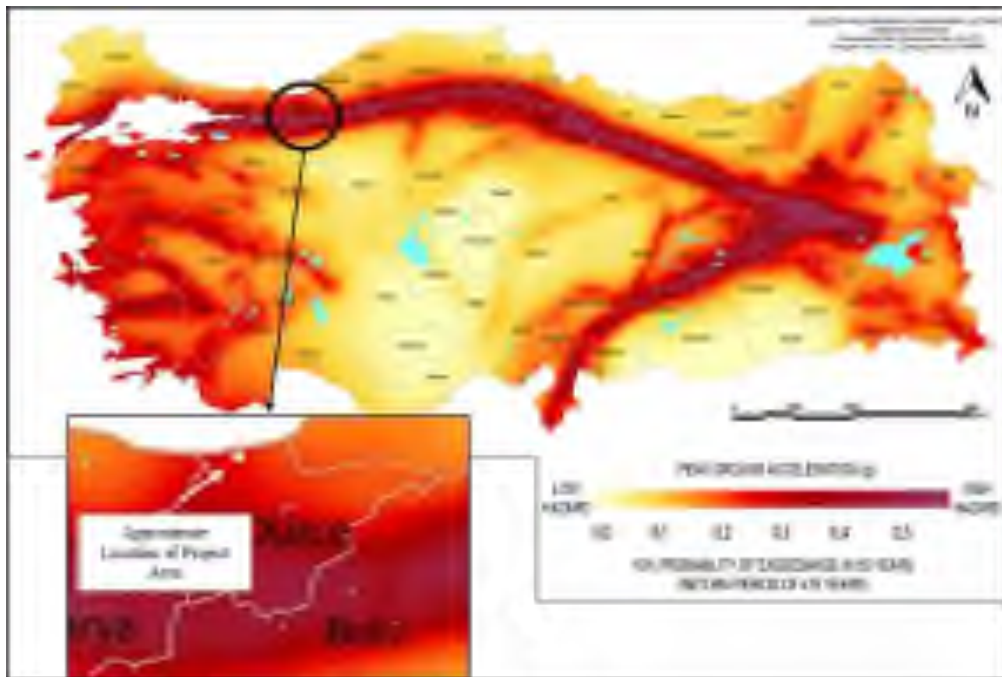


Figure 4-7. Earthquake Hazard Map of Türkiye [8]



4.1.5 Climatic Conditions and Meteorology

The Köppen-Trewartha climate classification defines six main climate groups. According to Trewartha, climate groups A, C, D, E and F are the main thermal regions. The sixth group is the dry climate zone that intersects with other climate types except the B, F arctic climate. Düzce Province has a humid subtropical climate (Cfa) under the Köppen climate classification and an oceanic climate (Do) under the Trewartha climate classification. It experiences chilly, occasionally snowy winters and very warm summers [10].

According to Long Term Meteorological Data the General Directorate of Meteorology for the years between 1959 and 2020 collected at the measurement stations located in Düzce Province (Akçakoca Lighthouse, Gölyaka, Düzce, Akçakoca, Yığılca Cumayeri, Yığılca-Yoğunpelit Village, Gölyaka-Kardüz Plateau, Çilimli, Kaynaşlı and Gümüşova), the annual average temperature is measured as 13.2°C while the coldest month is February (3.7°C), and the hottest month is July (22.6°C). Abundant precipitation is observed in winter and autumn, while the driest season is summer. The average amount of annual precipitation is 817.7 mm. The annual average humidity is 77.5%. The number of days with snowfall is 6, and the duration of snow on the ground is five days. The frost event is observed for 44 days. The fog event occurs 23 days a year, abundantly in November (8 days) [11].

Further long-term meteorological data is given in Table 4-1.

Table 4-1. Long Term Meteorological Data of Düzce Province (extremes 1959–2020) [11]

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Highest temperature °C	24.5	26.9	32.2	34.7	39.5	39.0	42.4	42.0	38.7	38.2	30.2	29.2	42.4
Average highest temperature °C	8.7	11.2	14.3	19.3	23.9	27.5	29.7	30.0	26.5	21.5	15.9	10.3	19.9
Average daily temperature °C	4.1	5.5	8.2	12.3	17.0	20.8	23.1	23.2	19.3	14.8	9.5	5.6	13.6
Average lowest temperature °C	0.8	1.5	3.7	7.1	11.5	15.2	17.4	17.8	13.9	10.3	5.3	2.3	8.9
Lowest temperature °C	-20.5	-17.3	-13.6	-3.0	0.4	6.6	8.8	7.6	4.5	-1.2	-6.8	-16.5	-20.5
Average of total monthly precipitation amount mm	87.1	70.7	77.1	60.6	61.5	76.7	39.3	51.1	52.7	82.8	67.6	95.7	822.9
Average number of rainy days	15.00	14.47	14.33	12.60	12.70	10.57	6.70	6.17	8.90	12.00	11.60	16.07	141.1
Average number of monthly sunny hours	58.9	84.8	117.8	162.0	210.8	246.0	272.8	254.2	195.0	136.4	87.0	52.7	1,878.4
Average number of daily sunny hours	1.9	3.0	3.8	5.4	6.8	8.2	8.8	8.2	6.5	4.4	2.9	1.7	5.1



4.1.6 Natural Hazards

Due to the steeply sloped surrounding rocks of the Düzce Basin and the nearly flat topography of the Düzce plain, an alluvial fan has formed in almost all the basin edges. On the other hand, streams in the basin have highly twisted and meandering channels. The low elevation difference between the mean bed slopes of the outer parts of the streams and the alluvial fans and the Efteni Lake causes the stream beds to remain very shallow. These drainage features create a significant flood risk for the Düzce basin [12].

Mass movements are common around the Düzce Basin due to its abundant rainy climate and its geological-geomorphological structure. It has been determined that the majority of the shifts from the mass movements gained activity during the heavy rains in May 1998. Around the basin; Yazlık Creek, where Düzce-Akçakoca Highway passes, in the north, and Büyük Melen Stream valley in the north of Cumayeri District are the areas where landslides are most intense. The second region where landslides are concentrated is the skirts of Almacık Mountain, which borders the south of the basin [12]. The Project is not located in the landslide area.

4.1.7 Land Use and Ownership

In the Akçakoca District, public lands are scattered throughout the city. The properties with large surface area are Treasury lands and lands allocated for official institutions. Of the total public property (70.85 hectares), 26.48% is owned by the treasury and 20.69% is official institution areas. Municipal property is 13.66 hectares. This is followed by areas allocated to the Ministry of National Education with an area of 9.13 hectares and pastures with an area of 5.92 hectares. Forest areas have the least ownership rate of 0.27% in the district [14].

The project area belongs to the Akçakoca Municipality. It is in the "Urban Settlement Area" according to the 1/100,000 scale Environmental Plan of Düzce Province and the Zoning Plan submitted by the Akçakoca Municipality. The title deed of the land is provided as Annex 4 of this ESMP.

4.1.8 Soil Quality

Düzce Plain is a depression plain located in the center of Düzce Province. The Limeless Brown Forest soils observed in the mountainous areas around the plain are the most common soil group within the province's borders. These soils are generally deciduous in winter and spread in broad-leaved forests. The Red Yellow Podzolic soils on the Black Sea coast are another soil group with a wide distribution area dominated by the Black Sea climate, and they spread from the coastal area to the Düzce Plain. Alluvial soils, suitable for agriculture, are present in almost all of Düzce Plain. On the other hand, Brown Forest and Grey Brown Podzolic soils are observed in east and northeast, respectively. Additionally, hydromorphic and colluvial soils in thin strips are also found in places in the province (see Figure 4-8) [15].



Figure 4-8. Distribution of Large Soil Groups in Düzce Province [15]

The area and distribution of Land Use Capability (LUC) classes are other factors impacting the distribution of land use /land cover. The areas included in the first four LUC classes are suitable for cultivated agriculture. In contrast, those covered in the last four classes are not suitable for cultivated agriculture. Fifth, sixth, and seventh-class lands are not suitable for agriculture but could be evaluated for cultivation at different times. Lands turn into eighth-class useless lands due to erosion and bedrock coming to the surface and of, which should be used as pasture and forest [15].

Additionally, these lands positively contribute to the natural environment and can be evaluated for different activities, i.e. tourism and sports. Considering the land use capability of Düzce Province, while 21% of the land is suitable for cultivated agriculture, 79% consists of areas not suitable for which. Most of the productive lands in cultivated agriculture in Düzce Province exist in the Düzce Plain and its close surroundings. The lands located in high and sloping fields around the Düzce Plain are not suitable for cultivated agriculture (see Figure 4-9) [15].



Figure 4-9. Land Capability Class Map of Düzce Province [15]

Brown forest and alluvial soils exist in the Akçakoca District. Forests also consist of yellow and red soils. The character of soil in the district is clay-loam. The soil structure is composed of 78-89% organic fracture, which is moderately and slightly acidic. The lime composition of soils is low and its salinity varies between 35 and 44%. The soil structure is poor in terms of potassium and phosphorus compositions [1]. According to Figure 4-8 and Figure 4-9, the project area consists of red yellow podzolic soils and has Class IV land use capability which means that these soils are not subject to erosion but are unsuitable for growing many agricultural products as they have a low yield and a tendency to dry up in the spring suddenly.

Activity Preliminary Information Form applications submitted to PDEUCC within the scope of "Regulation on Control of Soil Pollution and Point Source Contaminated Sites" are being evaluated and the relevant inspections are ongoing by the authority. In this respect, there are 193 suspicious areas and 16 areas requiring follow-up and there is no contaminated area within the borders of the province [2]. There is no investigation study available on soil quality specifically for the project area. However, the Project area is not within the area where industrial activities are conducted; thus, it is not included within the potentially contaminated site as per Regulation on Control of Soil Pollution and Point Source Contaminated Sites.



4.1.9 Air Quality

The air quality of Düzce Province is measured at the air quality measurement station located in the center of the city, which is approximately 26 km air distance from the Project location (Düzce Province 2020 Environmental Status Report, 2021) (see Figure 4-10).



Figure 4-10. Location of Air Quality Measurement Station in the Düzce Province [2]

The graphics given in Figure 4-11 and Figure 4-12 show the average daily PM₁₀ and SO₂ levels measured in 2020 [2].



Figure 4-11. Daily Average Values for PM₁₀ Parameter [2]

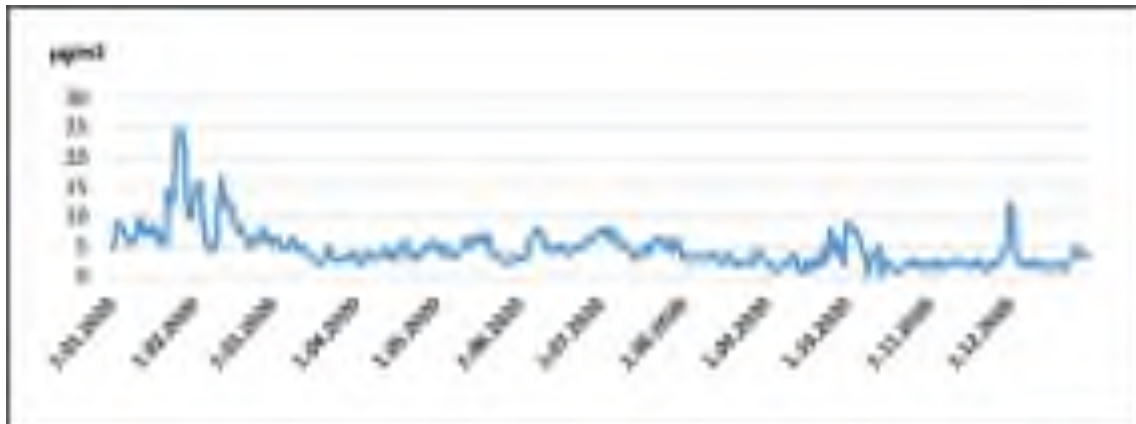


Figure 4-12 Daily Average Values for SO₂ Parameter [2]

Table 4-2 provides legal limit values for air quality defined by the Regulation on the Assessment and Management of Air Quality.

Table 4-2. Air Quality Limit Values [2]

Pollutant Parameter	Measurement Period	Limit Values (µg /m ³)
Sulfur dioxide (SO ₂)	Hourly	350
	Daily	125
	Yearly	20
PM ₁₀	Daily	50
	Yearly	40
Nitrogen dioxide (NO ₂)	Hourly	250
	Yearly	40
Nitrogen Oxides (NO _x)	Yearly	30
Carbon monoxide (CO)	8 hours average	10,000

Table 4-3 includes the number of days that exceeded (NDE) the legal limit values for air quality parameters in 2020 [2]. The results indicate that the exceedance is in PM₁₀ and NO_x values. The results indicate that the ambient dust levels are prevalent during the months of winter and are less in the summer months. The NO_x values tend to be above the allowable limits during the winter months.

Table 4-3. Average Monthly Concentrations of Air Quality Parameters in 2020 and NDE (µg/m³)[2]

Central Station	SO ₂ (µg/ m ³)	NDE	PM ₁₀ (µg/ m ³)	NDE	CO (mg/ m ³)	NDE	NO ₂ (µg/ m ³)	NDE	NO _x (µg/ m ³)	NDE
February	10.16	-	98.19	21	1432.79	-	27.49	-	105.25	-
February	8.76	-	60.29	17	896.63	-	32.29	-	71.73	-
March	4.07	-	49.79	14	522.08	-	11.40	-	40.51	-
April	3.93	-	65.51	20	464.34	-	10.13	-	23.64	-
May	4.44	-	54.54	12	278.46	-	9.2	-	20.83	-
June	5.23	-	44.77	7	281.46	-	10.91	-	22.95	-
July	5.51	-	45.54	9	281.49	-	10.98	-	19.43	-
August	3.02	-	45.49	9	202.1	-	14.01	-	23.33	-

Central Station	SO ₂ (µg/ m ³)	NDE	PM ₁₀ (µg/ m ³)	NDE	CO (mg/ m ³)	NDE	NO ₂ (µg/ m ³)	NDE	NO _x (µg/ m ³)	NDE
September	2.7	-	47.30	9	340.81	-	21.95	-	34.38	-
October	3.47	-	87.78	22	248.56	-	26.94	-	77.23	-
November	2.36	-	148.06	27	590.75	-	27.83	-	114.89	-
December	3.12	-	142.09	25	1204.11	-	27.24	-	107.23	-
Limits	125 µg/ m³ in 24 hours	-	50 µg/ m³ in 24 hours	-	10 mg/ m³ in maximum daily 8-hour average	-	200 µg/ m³ hourly	-	240 µg/ m³ hourly	-

The Düzce Province Clean Air Action Plan, revised to cover 2020-2024, was approved by the Local Environment Board decision numbered 2020/21, dated 17.02.2020. In addition, because of the air quality monitoring studies that started in the province in the last period of 2020, the revision of the 2020-2024 Düzce Provincial Clean Air Action Plan is on the agenda [2].

4.1.10 Waste Management

Düzce Provincial Solid Waste Association (DIKAB) was established between Düzce Province Municipalities with the Council of Ministers Decision dated 27.12.2002 and numbered 2002/5116 to find solutions to environmental problems that cause environmental pollution and adversely affect public health in Düzce Province. Akçakoca Municipality is also a member of the union of DIKAB. A licensed landfill facility operated by the Düzce Municipality is currently used by Akçakoca Municipality to manage municipal wastes. The landfill facility has all the relevant environmental licenses and permits for operation and operates in compliance with relevant legislation. The Düzce landfill which is located on Düzce Yığılca road, in Hecinler locality, will be used during the phases of the Project.

As of 01.10.2018, the Zero Waste Project has been implemented in the Province, starting from the Governor's Office, and then wastes have been collected separately in all Public Institutions and sent to recycling/disposal [2].

One disposal site is available within the province boundaries to dispose of excavation soil wastes. The number of waste treatment facilities in Düzce Province as of 2020 is shown in Table 4-4 below [2]:

Table 4-4. Number of Waste Treatment Facilities in Düzce Province as of 2020 [2]

Facility	Number
Sanitary Landfill	1
Licensed Packaging Waste Collection, Separation and Recovery Facilities	27
Hazardous Waste Recovery Facilities	4
Waste Oil Recovery Facilities	-
Waste Vegetable Oil Recovery Facilities	-
Waste Battery and Accumulator Recovery Facilities	1
End-of-Life Tire Recovery Facilities	-



Facility	Number
Medical Waste Sterilization Facilities	1
Non-Hazardous Waste Recovery Facilities	39
Waste Electrical and Electronic Goods Processing Plants	1
Mine Waste Disposal Facilities	-

The Akçakoca Municipality Wastewater Treatment Plant (WWTP), which is located at Düzce Province, Akçakoca District, Osmaniye Neighbourhood, treats the domestic wastewater in the district. The plant serves 3,000 population and plant capacity is 5,000 m³/day. The WWTP has been active since 2002 and the operating units located on 6,236 m² of land include the following: coarse and fine screen, aerated grit and grease removal channel, parshall weir, sampling, and distribution structure, lodging building, administrative building and workshop building. The environmental permit for the operation of WWTP was not renewed since the facility did not have a Continuous Wastewater Monitoring System infrastructure in place. Presently the Municipality has applied for a temporary operation document, which is a prelude for the environmental permit renewal process. The treated wastewater is discharged into the nearby Orhan Stream, which ultimately discharges into the Black Sea some three (3) kilometers downstream of the facility.

4.1.11 Noise

While Düzce Municipality evaluates the complaints from the Province's center, the complaints outside the adjacent areas and in the districts are handled by the Düzce PDEUCC. The PDEUCC received several complaints in 2020 due to industrial activities [2]. No complaint is received from the Akçakoca Covered Market on noise generation.


4.1.12 Flora and Fauna

Flora

The phytogeographic regions in Türkiye are Euro-Siberian (Euxine) Floristic Area, Mediterranean Floristic Area and Irano-Turanian Floristic Area. These regions are explained below [34]:

Euro-Siberian (Euxine) Floristic Area: This area is divided into two sub-regions as Euxino province and Hyrcanian province. The area in the west close to the Black Sea is called the Euxine province, and the area in the east, which is dominant in the northern Iran and Talish regions, is called the Hyrcanian province. The Euro-Siberian area is represented by the Euxine province in Türkiye. This area covers all northern Anatolia and runs to the western part of the Caucasus. A broad-leaved forest formation, in which conifers are also mixed, spreads in the higher parts of Euxine province.

Mediterranean Floristic Area: This area is represented in Türkiye by the "East Mediterranean Province", which is considered to extend from the eastern half of Italy to Lebanon, and covers all the southern Anatolian coasts, reaching from the western Anatolian coast to the



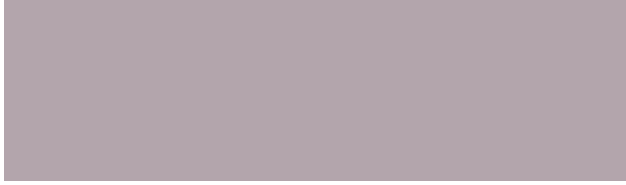
Gallipoli Peninsula in the south of Thrace. Plant life in these areas continues for a significant part of the year without any major interruption. Dry forests and maquis elements, which are prominent representatives of the Mediterranean climate, spread.

Irano-Turanian Floristic Area: The Irano-Turanian Floristic area in Türkiye is surrounded by the European – Siberian Floristic Area from the north and the Mediterranean Floristic area in the west and south. It includes the Central Anatolian plateaus and the Eastern Anatolian plateaus. Naturally, these surrounding mountain chains determined the boundaries and climate of this area. This area is characterized with steppe, mountain steppe and semi-desert in Iran and Central Asia.

Düzce Province is under the effect of the Euro-Siberian (Euxine) Floristic Area, Mediterranean Floristic Area and Irano-Turanian Floristic Area spreading in the northwest Black Sea region. The province is in the transition zone of Euxine (Mid-West Black Sea) and Xero-Euxine (Arid Western Black Sea) Floristic Areas. Samandere Valley starts from the Beyköy-Uğur Village in the southeast of Düzce Province and stretches to Lake Abant and Abant Mountains. The effect of the Mid-West Black Sea sub-floristic area (Sub-Euxine) of the Euro-Siberian Floristic Area is observed in the high places of Abant Mountains (1,600 m) facing northwest, in the Samandere Valley and along the streams. The effect of the Mediterranean Floristic Area is locally observed in the front valley formed by Uğur Suyu Stream located between Beyköy-Uğur Village-Derdin and the northern part of Düzce Province. Irano-Turanian Floristic area is observed in the Central Anatolian section of Düzce, which is under the effect of steppe climate; transition areas to the Xero-Euxine Floristic Area in the south; the high parts of Sinekli and Sakarca Plateaus; and the areas of the Abant Mountains (1,500-1,600 m), where subalpine vegetation is found. All these floristic areas are located at the intersection and transition points of the front Uğur Suyu Valley, which is in the Şimşirlik Locality of Uğur Village and Samandere Valley extending to Abant Lake due to their geographical location and geomorphological structure. The vegetation types in stream, relic maquis, forest, subalpine, and rock, and the rare plant habitats within these vegetation types are spread [16].

Studies conducted by the Düzce University for Düzce Province in 2019 revealed the presence of 102 families, 471 genera, 1200 species, and subspecies taxa. Of the total number of families, 6% fern, 3% Gymnospermae, and 91% Angiospermae families, and the total number of genera, 1.6% were ferns, 1% were Gymnospermae, and 97.4% were Angiospermae. Fern constitutes 1%, Gymnospermae 0.5%, and Angiospermae 98.5% of the total number of species and subspecies taxa. According to the conducted studies [16]:

- Most of the plants have a very wide distribution area. Secondly, the presence of plants belonging to the Euro-Siberian Floristic Area is quite common. Besides, plants belonging to the Mediterranean and Irano-Turanian Floristic Areas are also grown.
- The families with the most genera in Düzce Province are as follows: Asteraceae (12.3%), Poaceae (8.2%), Brassicaceae (6.2%), Apiaceae (5.3%), Fabaceae (5%, 1),



Lamiaceae (4.9%), Rosaceae (3.8%), Caryophyllaceae (3.6%), Orchidaceae (2.5%), Boraginaceae (2.3%), and other families (54%).

- The families containing the most species and subspecies taxa are Asteraceae (12.75%), Fabaceae (9.1%), Poaceae (6.8%), Lamiaceae (6.3%), Brassicaceae (4.2%), Caryophyllaceae (3.9%), Rosaceae (3.8%), Apiaceae (3.4%), Orchidaceae (2.5%), Boraginaceae (2.4%) and other families (44.85%).
- The genera containing the most species and subspecies taxa are Trifolium (2.3%), Euphorbia (1.3%), Vicia (1.3%), Veronica (1.25%), Carex (1%), Medicago (1.16%), Ranunculus (1.08%), Lathyrus (1%), Ornithogalum (1%), Anthemis (0.9%), Salvia (0.9%) and other genera (86.65%).

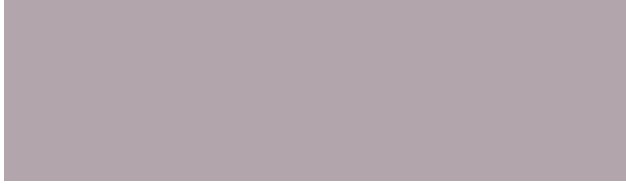
The centers in Düzce Province where local endangered endemic plants are observed, are as follows [16]:

- Valley slopes in the Scots pine (*Pinus sylvestris*) forests facing south of the valley formed by Aksu and Emeksiz streams at Elmacık Mountains,
- Rocky and clear areas in Horoz Kaya Locality between Toptepe and Güzel Creek Waterfall,
- Efteni Lake,
- Rocky areas around Hasanlar Dam,
- Cumayeri District, Dokuz Değirmen Village,
- Melenazlı Dune Fields,
- Samandere Valley Uğur Village-Şimşirlik Locality.

None of these localities are located in or vicinity of the project area and/or AoI. No endemic taxa exist in the vicinity of the Project area.

The general vegetation of the Akçakoca District was determined by site-based studies conducted between 2001-2003 by Koca and Yıldırım (2008). Since the district is entirely within the Euro-Siberian plant geography, 159 species with Euro-Siberian elements were detected with a ratio of 28.2%. In addition, since the district is partially under the influence of the Mediterranean climate, 66 species with Mediterranean elements such as *Myrtus communis* (myrtle), *Laurus nobilis* (laurel), *Erica arborea* (heather) and *Arbutus unedo* (arbutus), which are called maquis, were detected in the second place with a rate of 11.7%. In addition to these, four (4) species with Irano-Turanian element were detected with a rate of 0.7%, while 335 species with multi-regional or unknown regions were detected with a rate of 59.4% [35]. *Corylus sp.* (hazelnut), which is the most significant crop to the economy of the district is also commonly cultivated by the local people [17].

According to the P.H. Davis's Grid System, which is developed for identification of flora species in Türkiye, Akçakoca District is located in the A3 square. In this respect, the flora species potentially exist in the Akçakoca District and their categorizations based on the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species and BERN Convention in addition to their endemism status is given in Annex 5 [36].



According to the list in Annex 5, there are 14 species under endemic, four (4) species under Annex I of Bern Convention, one (1) near threatened species, and 248 species under least concern in the Akçakoca district. However, there is no flora in the project area.

Fauna

Rich vegetation, land structure, streams and suitable climate create a favorable environment for wildlife in Düzce Province. However, systematic inventory studies that determine species, population and habitats have not been carried out in this regard [18]. According to the survey related to the bird species living in the Lake Efteni carried out by Keten *et al.*, a total of 129 species were identified in the lake area [19].

Birds such as the cormorant, wild duck, wild goose, flamingo, swan, waterfowl and Eurasian coot are present in the area, and partridge, dove, quail, freckle, bustard, crane, woodcock, pigeon, hawk, and eagle are frequently observed. In addition, fish species such as trout, carp, coral, and silverfish are present in Lake Efteni. Terrestrial animals such as bear, lynx, wild boar, deer, roe deer, wolf, marten, fox, badger, rabbit, skunk, weasel, beaver, and squirrel are found in forest areas [19].

The main wild animal species found in the Akçakoca Region are as follows: Yellowbird, woodcock, quail, duck, goose, swan, turtledove, scallop, grouse, starling, rabbit, jackal, fox, pig, bear, marten, beaver (around streams). Fish species that are permanently caught on the coasts of Akçakoca District are as follows: horse mackerel, whiting, bream, cigarette, mullet, garfish, weasel, reef, oiler, silverfish, swallow, small shark, stingray, scorpionfish and stingfish [18]. None of these fauna species exist in or vicinity of the project area.

The fauna species potentially exist in the Akçakoca District and their categorizations based on the IUCN Red List of Threatened Species and BERN Convention in addition to their endemism status is given in Annex 5. The statuses of relevant species with respect to national legislation i.e. species under protection by the Ministry of Agriculture and Forestry (MoAF) and Decision of the Central Hunting Commission (MAKK) are also indicated in the lists provided in Annex-5 [36]. According to the list in Annex 5, there are 38 species under Annex II of Bern Convention, 32 species under Annex III of Bern Convention, and 61 species under MoAF in the Akçakoca district. However, there is no fauna in the Project area.

The nearest surface water resource, which is Orhan Creek at west, is adjacent to the project area. Crimean Barb (*Barbus tauricus*) is in the category of vulnerable (VU) species in the Red List of the IUCN in the inland waters of the Black Sea, including the Orhan Creek, and in the Black Sea [1]. Since the project area will be built in the existing market place, there will be no adverse impacts on Crimean Barb (*Barbus tauricus*).

4.1.13 Protected Areas

In terms of legally protected areas, Fakıllı Cave Region Natural Protected Area and Akçakoca West Natural Protected Area located in the district have been registered as



“Qualified Natural Protected Area-Sustainable Protected and Controlled Use Area” and "Natural Site-Qualified Natural Protected Area", with the approval letters of the MEUCC dated 10.05.2019 and 29.04.2021, respectively [21;22;23]. Fakıllı Cave Region and Akçakoca West Natural Protected Areas are located approximately 5.5 km southeast and 2 km northwest from the project area, respectively.

There is also an urban protected area approximately 1.5 km west of the project area, which is registered with the Decision No. 4637 of “Ankara Cultural and Natural Heritage Conservation Board” dated 02.06.1996 [23].

The satellite view of nearest protected areas and the project area is given in Figure 4-13.



Figure 4-13. Satellite View of Nearest Protected Areas and Project Area

There is no other legally protected area within the AoI [2;25;26]. Besides, there is no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction Sites) within the AoI.

4.1.14 Landscape

When the urban and rural uses within the Akçakoca District are considered, the distinctive landscape character emerges as a rural agricultural landscape. On the other hand, Akçakoca urban area is a coastal city. In addition, its historical and natural features in the city contain many protected areas and resource values. It is seen that the district stands out mainly in terms of "tourism" potential. Moreover, it is observed that the urban transformation process and practices, which have become a frequently used tool in shaping the physical space in the country's policy, started in the district center [26].



4.2 Social Baseline

The marketplace activities include the sale of a variety of vegetables and fruits as well clothes, home textile products and other accessories. The marketplace has been operating since 1990. The place consists of six (6) sections and serves 192 stalls. The marketplace is open each Tuesday between 5 am to 8 pm including the installation and removal of stalls. The shopping time is between 8 am to 6:30 pm. Within the marketplace service area, 1370 citizens reside and approximate number of visitors is 700 people in each Tuesday.

4.2.1 Population

The population of Akçakoca is 39,500 residents, 27,490 of which is in the district center and the rest of the population lives in villages based on the TurkStat data dated 2021. This population consists of 20,086 female (50.85%) and 19,414 male (49.15 %) [6].

In terms of the annual growth rate of population, the district has the highest population with 9.91% [6]. The district consists of 51 administrative units, eight (8) neighborhoods and 43 villages. It is the most developed and largest district of Düzce Province [27].

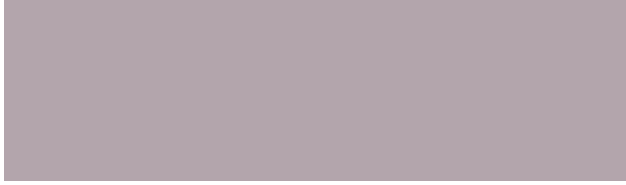
The Project will be realized in Osmaniye neighborhood, which has a population of 11,177 with 5,253 male and 5,924 female. Based on information provided by Osmaniye headman, there are vulnerable/disadvantaged individuals/groups in the neighborhood. The list of these groups is given in Table 4-5. Social services, district governorship, and headmen look after these groups if they apply to these institutions. These groups need financial aid, supplies, and shelter.

Table 4-5. Vulnerable / Disadvantaged Individuals / Groups in Osmaniye Neighborhood

Group	Number of Individuals / Groups
People who live with the assistance of other	40 households
People receiving social assistance	150 households
Elderly people over 70 years of age who live alone and in need of care	2,000 people
Female headed households	20 households
Physically handicapped people	40 households
Mentally handicapped people	50 households

4.2.2 Livelihood

The agricultural land that can be cultivated in Akçakoca District is 228,965 decares. The livelihood of Akçakoca District, where Türkiye's best quality hazelnuts are produced, is largely based on hazelnut farming. The hazelnut production is made on a total area of 153,000 decares in the district. When it is compared to the population, Akçakoca District has the highest production capacity in hazelnut production in the Black Sea Region. While



the return of hazelnut production may have been sufficient for families in the past, the expansion of families and the partition of hazelnut fields over time causes the income from hazelnuts to be insufficient. Annual hazelnut production in the district is between 17,000 and 36,000 tons. [32; 33]

Because the district is poor in terms of lowland and grassland, it seems that cattle farming has not made much progress. Due to this reason, people who have turned to different pursuits have made considerable progress in poultry. One of the main livelihoods in the district is beekeeping. Chestnut honey produced in Akçakoca District is among the few kinds of honey in the world. Fishing also contributes to the economy of Akçakoca District. The most abundant species are acorn and anchovy which are shipped to the surrounding provinces and districts [32].

There are also many large and small industrial establishments in the district. 3 metal pipe factories exist in the district; Ümran Pipe, Çınar Pipe and MMZ Onur Pipe. Of these, Ümran Pipe is Türkiye's largest pipe factory with a closed area of 104,000 m² and a capacity of 350,000 tons/year. Also, Çınar Pipe, and MMZ Onur Pipe are the factories that contribute greatly to the economy. Pipes produced in the district are also exported abroad [28].


Tourism in Akçakoca started in 1950s. Akçakoca District is a preferred tourism region due to its nature and coastline. It is a favorite tourism city for all seasons with its natural protected areas, closeness to big cities such as Ankara and Istanbul, and its climate. There are blue flag beaches such as Akçakoca, Genoese Castle Beach, Akevler Beach, Çuhallı Beach, which has a coastline of 35 km [33]. The prominent attractions of Akçakoca District are as following:

- Aktaş Waterfall,
- Fakıllı Cave,
- Genoese Castle,
- Kurugöl Canyon,
- Cumayanı Picnic and Recreation Area,
- Akkaya Village Picnic and Recreation Area.

Based on the information obtained from the headman during the phone interview, livelihood is mainly agriculture, followed by the service sector in the Osmaniye neighborhood. Due to the economic problems in the country, the average monthly income in the Osmaniye neighborhood is 6,000 TL. People living in the Osmaniye neighborhood are 50% owners of their houses and 50% renters.

4.2.3 Employment

Çınar Pipe, MMZ Onur Pipe and Ağır Rolling are the factories that contribute greatly to the economy with their production capacities and the personnel they employ. In addition, two



(2) textile factories employ 250 people. The district has 416 active members of the Chamber of Commerce and Industry, 994 of the Chamber of Tradesmen and Craftsmen, 171 of the Chamber of Iron and Metal Craftsmen, 338 of the Chamber of Drivers and 7,000 active members of the Chamber of Agriculture [28].

According to the information obtained from the headmen during the phone interview, people tend to work in the private sector and most of the residents in Osmaniye neighborhood are retired.


4.2.4 Education

The literacy rate in Akçakoca District corresponds to 96.5% of the people, and this rate is above Düzce Province and Türkiye in general. In the district, there are 18 primary schools, eight (8) of which are in the center and ten (10) in the villages. In terms of secondary education; a high school (1969), a Commerce Vocational and Anatolian Trade Vocational High School (1978), an Anatolian Technical - Technical High School and Industrial Vocational High School (1981), a Girls Vocational High School (1986), an Imam Hatip High School (1993), an Anatolian Hotel Management and Tourism Vocational High School (2001), an Anatolian High School (2002), an Anatolian Teacher High School (2007) and a Practical Girls' Art School (1967) within the Vocational High School for Girls exist at the center of the district. The number of schools with kindergartens is 20. There are a total of 378 classrooms in the district, with 259 classrooms in primary education and 119 classrooms in secondary education. In the district, there is also a 5-year Tourism and Hotel Management School affiliated to Düzce University and a 2-year Vocational School [29; 31].

There are four (4) kindergartens, one (1) primary school and one (1) secondary school, one (1) high school, and one (1) university in the Osmaniye neighbourhood, where the Project is be performed.

4.2.5 Health

Within the "Regulation on the Family Medicine Pilot Practice" framework published in the OG dated 6 July 2005 and numbered 25,867, the Family Medicine system has been adopted in the district since November 2005, and 12 Family Medicine Units and 1 Community Health Center Medicine have been established. The district's State Hospital was established on a land of 18,336 m² in 2001, and the building settlement area is 4,859 m². The hospital, which has a capacity of 100 beds, still provides 2nd level health services with 50 beds. 112 Emergency Service was also established in 2001 within the body of State Hospital. In addition, Emergency Service is provided in Akçakoca-Sapak area. There are four (4) health centers (two (2) in the center and two (2) in the villages) and four (4) health houses in the villages. In addition to the current health organization, there are still six (6) self-employed dentists and 10 pharmacies operating in the district [28].



Based on the information obtained during the phone interview with Osmaniye headman, there is one (1) public health center, two (2) family health centers, one (1) 112 emergency service, and three (3) pharmacies in the Osmaniye neighborhood.

4.2.6 Public Utilities

As afore-mentioned, Uğur Suyu Stream surface water resource, which was activated in 1994, has started to meet the water of the Düzce province since that year [2].

In Akçakoca District, there is a 46 km long sewerage network built by ILBANK. In addition to this, there is an average of 55 km of sewer lines, together with the other lines which were constructed subsequently. It is under operation separately from rain water. Approximately 3-4% of the settlement in the district has a sewerage network. Septic tanks are used in areas where there is no sewer line. The sewerage system serves 97% of the population of Akçakoca Municipality and which ends with the Akçakoca Central Wastewater Treatment Plant [2]. The environmental permit for the operation of WWTP was not renewed since the facility did not have a Continuous Wastewater Monitoring System infrastructure in place. Presently the Municipality has applied for a temporary operation document which is a prelude for the environmental permit renewal process. The Municipality has indicated that monthly testing of treated effluent is being performed and the treated wastewater is in line with the regulatory discharge parameters.

Sakarya Electricity Distribution Corporation (SEDAŞ) provides electrical energy in the Düzce Province [29]. ETLs pass through the south of the district [14].

The Local Environment Board Decision dated 13.07.2017 and numbered 2017/12 encouraged/recommended the use of natural gas for heating purposes and decided to make current systems compatible with natural gas [16]. The decision took into account the meteorological data and topographic structure of the province and aimed to protect community and occupational health against the damages of air pollution caused by heating in the winter period.

4.2.7 Cultural Heritage

Since Akçakoca District is an old settlement, there are many ancient artefacts in the district. The most important historical monuments are the Genoese Castle, Byzantine Church, Pınarı Mosque, Korfa Mosque and many historical wooden houses, which are registered by Ankara Cultural and Natural Heritage Preservation Board. The nearest of which is historical wooden houses with approximately 1 km west from the project location (see Figure 4-14) [23].

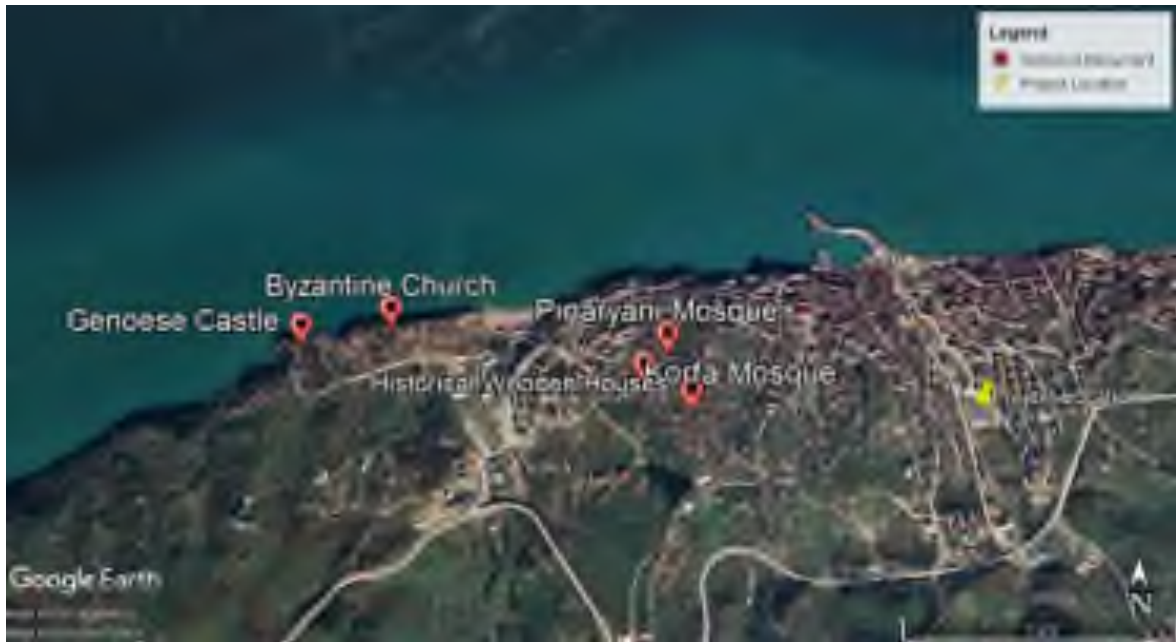


Figure 4-14. Immovable Cultural Heritage nearby the Project Location

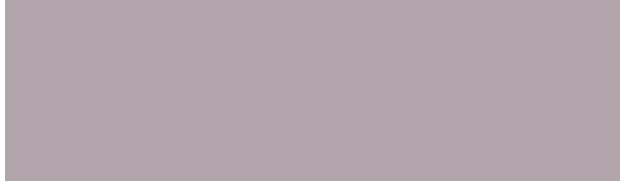
Based on the information obtained during the phone interview with Osmaniye headman, there are no areas/trees/buildings that have a specific cultural/religious significance in the Osmaniye neighborhood and the project site.

4.2.8 Traffic

As of July 2019, there are 111,026 motor vehicles registered to traffic in Düzce [16].

Akçakoca District is 243 km from Istanbul and 275 km from Ankara Province. For transportation, it is possible to reach Düzce Province by using the highway from both directions and the divided road between the greenery provides the 38 km distance from the province to the district as double round trips [28].

There is a distinct road stratification in Akçakoca District. The streets and boulevards that connect the Kocaeli-Ereğli highway with the district center are determined as the first-degree transportation axis. Akçakoca-Karasu road, which separates from Kocaeli-Ereğli highway over Sarma Stream and connects with the district center and passes as Istanbul Street, is one of the first-degree transportation axes that form the backbone of the transportation axis in the district. Istanbul Street continues along the coast by merging with İşgören Street near the Orhan Creek in the district center and joins with Atatürk Street at the junction point in front of the Akçakoca Mufti. Atatürk Street turns south at Çuhallı Çarşı Mosque and connects to the Kocaeli-Ereğli highway in front of the prison. This transportation axis, which leaves the highway and draws a ring in the district, is the first-degree transportation axis in the district. Istanbul Street and its continuation Atatürk Street are the most important transportation axis of the district in terms of both vehicular and pedestrian traffic [14]. D010 highway



(Akçakocabey Boulevard) passes south of the district and access ways from which to the Project area is shown in Figure 4-15.

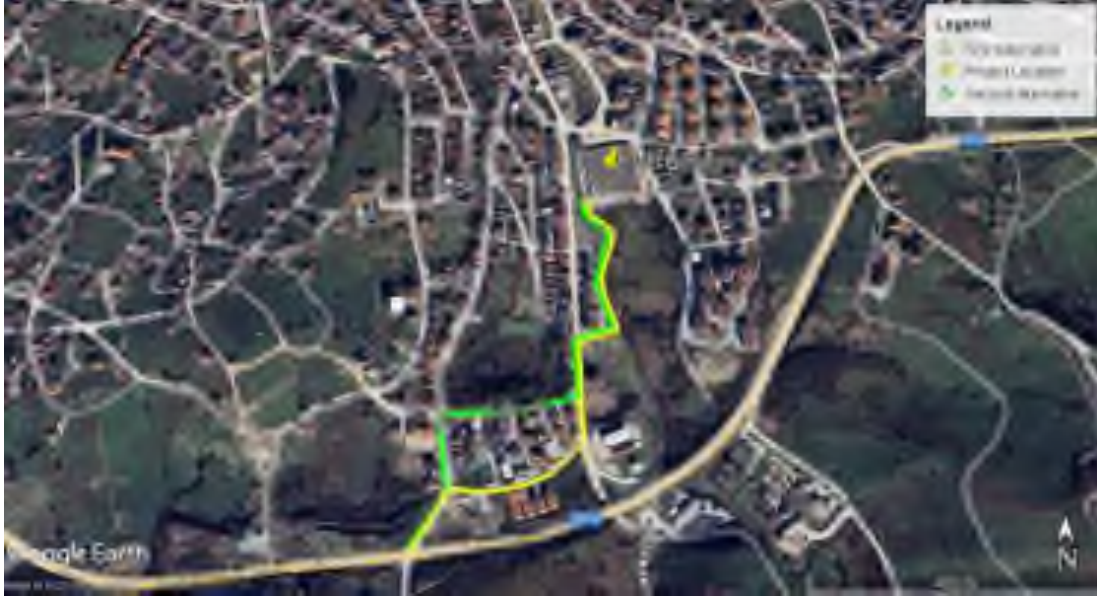


Figure 4-15. Access Ways from D010 Highway to the Project Area

All of the main boulevards and avenues and most of the streets in the Akçakoca are made of asphalt material. Apart from asphalt, dirt roads are predominant in the district walls and agricultural areas where settlement is sparse. Apart from these roads, the use of hardwood roads in urban areas is also quite common. There is also the use of stabilized roads in addition to the use of asphalt, parquet and dirt roads. 39.62% of the roads in the study area are asphalt pavement, 23.51% soil, 49.40% parquet and 6.57% stabilized pavement. Narrow streets and avenues are dominant in the district center [14].



5 Environmental and Social Impacts

In this chapter, the anticipated E&S risks and impacts of the Project are presented. The defined AoI is valid for all environmental and social impacts. WB OP 4.01 defines AoI as the area likely to be affected by the project, including all its ancillary aspects and unplanned developments induced by the project. Thus, the AoI, which is valid for all environmental and social impacts, is defined as follows and shown in Figure 5-1.



Figure 5-1. The Project's Area of Influence

5.1 Environmental Impacts and Risks

5.1.1 Air Quality

Since no earthwork will be conducted, dust generation during the construction phase is low, and it will originate primarily from reinforcement works on the rooftop in addition to vehicle traffic. The release of exhaust gas emissions is expected from construction equipment and vehicles during the construction phase. It is likely that the impacts of air emissions will be temporary and minor. The AoI should be minimal and in the immediate vicinity of the marketplace area.

Regarding the ambient air quality, national and international limit values for dust emission relevant to the Project are given in Table 5-1.



Table 5-1. National and International Limit Values for Dust Emission

Parameter	Average Duration	Regulation on Assessment and Management of Air Quality (RAMAQ) ($\mu\text{g}/\text{m}^3$)	WBG General EHS Guidelines ($\mu\text{g}/\text{m}^3$)	EU Directive ($\mu\text{g}/\text{m}^3$)
PM ₁₀	Daily (24 hours)	50 (Not exceeded more than 35 times a year)	50	50
	Annual	40	20	40
PM _{2.5}	Daily (24 hours)	-	25	25
	Annual	-	10	

The dust generated during the construction phase will be temporary and can be mitigated by taking measures stated in the Mitigation Plan in Chapter 6. If any grievance regarding dust generation is received, dust monitoring will be conducted to assess whether the measured result exceeds the limits. If the measured emission levels exceed the limits, additional measures addressed in the Mitigation Plan in Chapter 6 will need to be taken.

No impact on air quality is expected during the operation phase. Solar panels do not generate greenhouse gas emissions (GHGs) during operation [37]. Furthermore, using renewable energy instead of fossil fuels in electricity generation will positively affect air quality in terms of preventing climate change to contribute to reducing carbon emissions. However, in case of a fire that may occur due to electrical faults in the solar panels, toxic vapors affecting the community and occupational health may be released from the panels [38].

Proper measures addressed in the Mitigation Plan in Chapter 6 will be taken to minimize adverse impacts of exhaust gas generation and prevent negative impacts of potential toxic vapors released from solar panels during emergency cases.

5.1.2 Soil Quality

Potential negative impact on soil quality can occur due to any contamination originating from chemicals and hazardous materials used during the construction phase and wastes generated during the operation phase (i.e., waste solar panels including toxic heavy metals) unless appropriate management systems for these pollution elements are in place and implemented. Potential impacts will be very localized in the immediate vicinity of the construction area.

Proper measures addressed in the Mitigation Plan in Chapter 6 will be taken to prevent soil from adverse impacts of chemicals and hazardous materials.

5.1.3 Noise and Vibration

The construction equipment and vehicles will generate noise and vibration during the Project's construction phase. Noise and vibration generated during the construction phase



will be temporary and can be mitigated by taking measures stated in the Mitigation Plan in Chapter 6.

All construction works will need to be planned in line with the provisions of the Regulation on Environmental Noise Control (RENC). The environmental noise limit values for different sources provided in Table 1 of Annex 2 in RENC are given in Table 5-2.

Table 5-2. Environmental Noise Limits for Construction Sites

Source	Measured Parameter	Environmental Noise Level		
		Daytime	Evening	Night
Industrial facilities, transportation sources	$LA_{eq,5min}$	65 dB	60 dB	55 dB
Businesses that broadcast music	$LA_{eq, 63-250 Hz}$	60 dB	55 dB	50 dB
Workplaces	$LA_{eq,5min}$	Background + 5 dB		Background + 3 dB
In case of multiple workplaces	$LA_{eq,5min}$	Background + 7 dB		Background + 5 dB
All sources	LC_{max}	100 dB		

The allowed time zones for construction site activities carried out in the open air and causing environmental noise are 10:00-22:00 as per the RENC. Nevertheless, the construction works will be conducted between 10:00 a.m (i.e. the allowed start time for construction activities as per the RENC) and 19:00 pm (i.e. the end of the daytime period as per the RENC). The noise limit values for WBG General EHS Guideline considering the receptors in the residential, institutional, educational, industrial, and commercial areas are given in Table 5-3 below.

Table 5-3. WBG General EHS Guideline Noise Limit Values

Type of the Receptor	WBG General EHS Guideline	
	Daytime (07.00-22.00)	Night-time (22.00-07.00)
Residential	55	45
Institutional, educational		
Industrial	70	70
Commercial		

Additionally, noise impacts should not exceed the levels presented in the WBG General EHS Guidelines (Table 1.7.1), or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

The limit values for environmental vibration considering sensitive receptors are addressed in Table 5 of the RENC and provided in Table 5-4.



Table 5-4. Maximum Permissible Values of Ground Vibrations to be created by Construction and Construction Machinery outside the Nearest Most Sensitive and Sensitive Usage Area (frequency bands between 1 Hz and 80 Hz)

Area Category	Maximum Permissible Value (mm/s)	
	Continuous Vibration	Intermittent Vibration
Residential	5	10
Commercial	15	30
Historical and natural buildings	2	30

In case any grievance regarding noise and vibration generation is received, monitoring will be conducted to control whether the measured result exceeds the limits or not. The noise impact should be limited to within the AoI given in Figure 5-1.

Since the operation of the SPP will be silent, no noise and vibration generation are not expected during the operation phase of the Project.


5.1.4 Water Sources and Wastewater

The project area is located at an approximate distance of 700 m from the Black Sea and Orhan Creek flowing into the Black Sea passes adjacent to the project area.

During the construction phase, the drinking water and domestic water and water need for dust suppression activities will be provided from the municipal water source located at the north of the covered market in compliance with the “Regulation on Water Intended for Human Consumption” requirements. Since generated domestic wastewater will be connected to the sewage network and transferred to the Akçakoca Municipality Treatment Facility that has sufficient capacity, no adverse impact on water sources is expected during the Project's construction and operation phases. Besides, all construction activities will be performed in compliance with “Water Pollution Control Regulation”.

During the operation phase of the Project, cleaning/washing will be conducted periodically on the solar panels to prevent them from being adversely affected by dust and temperature leading to a decrease in efficiency. If the need for cleaning/washing arises, the water need will be provided from the above-mentioned municipal water source and brought to the site via tanks based on the specifications of the solar panel maintenance requirements. The wastewater to be originated as a result of cleaning/washing process will not contain any chemical or hazardous material but sludge. This wastewater will be discharged to the Akçakoca Municipality sewerage infrastructure. Since the wastewater connection is to the municipal sewerage infrastructure, no permit is required.

In case of any possible emergency (i.e., environmental accident, explosion, fire) during the installation and operation of the solar panels, emission of hazardous materials such as cadmium, zinc, lead, Chlorofluorocarbons (CFCs) used in the production of the solar panels



may occur as a result of the combustion. Water sources, particularly the nearest of which is adjacent to the project area (Orhan Creek), may be impacted due to poor management of leakage/spillage of chemicals and hazardous materials.


No surface water contamination is expected if appropriate emergency response planning is developed and implemented in case of any possible emergency (i.e. environmental accident, explosion, fire). Besides, it will be ensured that surface water resources are protected during the project activities against leakage/spillage as long as all chemicals and hazardous materials are stored in designated areas having secondary containment and handled with care by authorized staff.

Proper measures addressed in the Mitigation Plan in Chapter 6 will be taken to prevent water sources from potentially adverse impacts.

5.1.5 Waste Management

Waste generation is expected as follows:

- Construction waste is expected to be generated during reinforcement and installation works. Asbestos-containing roof wastes will also be originated in this respect as per Project's PID. Asbestos wastes will be collected separately from other wastes and disposed of according to the Waste Management Regulation provisions that will include transport to licensed Class I landfills with licensed trucks.
- Municipal solid waste (non-hazardous) is expected to be generated during construction and operation phases. The municipal solid waste produced will be collected by the Akçakoca Municipality and disposed at the landfill operated by Düzce Municipality.
- Solar panels can contain hazardous materials such as cadmium, zinc, lead, CFCs, etc. These materials may be released and cause negative environmental effects unless the broken waste panels or need to be replaced are managed with appropriate waste management systems or in case of any accident/explosion/fire during the operation phase. Hazardous waste generated in all phases of the Project will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to a licensed disposal facility via licensed waste transportation companies in line with the Waste Management Regulation.
- Recyclable waste during both construction and operation phases originates mainly from packaging materials. There will be bins for recyclable waste at the project area. These wastes will be collected by the Akçakoca Municipality and disposed at the licensed companies.
- The protective equipment, such as masks, gloves, etc., used due to pandemic control requirements shall be considered medical waste. All personnel's protective



equipment will be considered medical waste. It will be stored and disposed of separately from other wastes as per the Medical Waste Control Regulation.

All employees will be trained in waste management to raise awareness on waste reduction.

The mitigation measures against potential impacts of the wastes mentioned above are provided in Chapter 6 of this plan.

5.1.6 Land Use

The parcel, where the covered market is located, belongs to the Akçakoca Municipality. The title deed of the land is provided as Annex 4 of this document. It is in the "Urban Settlement Area" according to the 1/100,000 scale Environmental Plan of Düzce Province and the Zoning Plan submitted by the Akçakoca Municipality.

5.1.7 Landscape

No adverse impact on the landscape is expected since the Project area is not included in any agricultural or forest land. Although visual impacts can be significant for SPPs, no visual impact on the landscape is expected since the SPP to be installed within the project scope is a rooftop model.

5.1.8 Protected Areas


The project area is not within any natural habitat or protection zone. Besides, there is no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction Sites) within AoI.

The urban protected area approximately at 1.5 km west is the nearest protected area and no adverse impact is expected if the mitigation measures addressed in the Chapter 6 of this ESMP are implemented effectively.

5.1.9 Natural Hazards

A large part of Akçakoca District is in the 1st degree earthquake zone. However, potential impacts due to earthquake are not expected as long as reinforcement works within the SPP installation are conducted appropriately in compliance with the final static project.

The "Flood Management Plan of Western Black Sea Basin" dated July 2019 has been published by General Directorate of Water Management of MoAF to identify and evaluate the flood risks in the Western Black Sea Basin and to reduce the negative effects of floods on community and occupational health, environment, cultural heritage and economic activities [39]. There are mitigation measures which Akçakoca Municipality is responsible to take and which are addressed in the plan. Although there is flood risk in the province, no adverse impact due to a potential flood event within the project scope is expected as long as



the plan including rehabilitation works for Haciz, Orhan and Sarma Creeks are implemented by Akçakoca Municipality.

5.1.10 Chemicals and Hazardous Materials Management

Fuel oil will be used by vehicles and other machinery during the construction phase and may contaminate the environment unless vehicles and other equipment are not appropriately kept.

Maintenance oils will be used to maintain vehicles and other machinery equipment during the construction and operation phases. Besides, dyes will be used during the trim works and maintenance activities. Therefore, hazardous waste originating from the usage of these hazardous materials is also expected to be generated both during the construction and operation phases.

If there is no effective chemical and hazardous materials management, soil and water can be contaminated due to spilling or leaking hazardous materials. The mitigation measures against these potential impacts is provided in Chapter 6 of this plan.

5.1.11 Flora and Fauna

Given the siting of solar panels on the existing covered market, impacts on flora is not expected. The flora species mentioned in Section 4.1.12 are not expected to be in the vicinity of the project area since the project area is located in an urban settlement area. There is a hazelnut garden at the south of and adjacent to the Project area. However, no adverse impact is expected on this as long as the measures addressed in Chapter 6 are taken within the Project scope.

Since the Project area is located in an urban settlement area, none of these fauna species stated in the Section 4.1.12 are expected to exist in or vicinity of the project area. Furthermore, given the siting of solar panels on the existing covered market, impacts on fauna are not expected. On the other hand, the nearest surface water resource, Orhan Creek, is adjacent to the project area. Crimean Barb (*Barbus tauricus*) is in the category of Vulnerable (VU) species in the Red List of the IUCN in the inland waters of the Black Sea, including the Orhan Creek, and in the Black Sea [1]. No impact in this respect is expected on the creek as long as the measures addressed in Chapter 6 are taken within the project scope.

5.2 Social Impacts and Risks

5.2.1 Traffic

Traffic density is anticipated to increase on the access roads to the project site due to transportation of the PV panels and other equipment's during the construction phase. This traffic ingestion due to increased traffic along the existing roads will be temporary and only



limited to the transport activities. The areas where traffic impact may occur will be within the AoI given in Figure 5-1.

The potential impacts can be mitigated as long as the mitigation measures addressed in Chapter 6 of this ESMP are implemented effectively.

No adverse impact is expected during the operation phase with the completion of the SPP construction.

5.2.2 Working Conditions and Worker Management

There will be workers who will be directly engaged by the Sub-borrower (direct workers), potentially workers employed through third parties to perform work related to core business processes of the project, for a substantial duration (contracted workers), as well as workers engaged by the Sub-borrower's primary suppliers (supply chain workers). Workers have rights under national labor and employment law and any applicable collective agreements, including the rights related to work hours, wages, overtime, compensation, and benefits upon the beginning of the working relationship and when any material changes occur. Although not anticipated, if there will be accommodation services for workers, the Sub-borrower will put in place and implement policies on the quality and management of the accommodation and provision of basic services.

Potential adverse impacts of project activities on workers in terms of working conditions and worker management are as follows:

- Unequal opportunity and unfair treatment adversely affect non-discrimination and equal opportunity conditions such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment, or termination of employment retirement, and disciplinary practices.
- There may be a risk of employing migrant workers who are not engaged on substantially equivalent terms and conditions with the non-migrant workers carrying out similar work. According to information received from the Sub-borrower, there will be no provision of accommodation services for the workers during the construction and operation phases of the project.
- There may be a risk of employing children (under 18) since they are economically exploitable during the project activities despite definitive provisions of the Labor Law. There may be underage employees who work in a manner that interferes with their education and/or their health. Physical, mental, spiritual, moral, or social development may be affected adversely due to work.
- Women employees may be more vulnerable to harassment, intimidation, and exploitation.



The SPP will be operated by five (5) personnel consisting of electrical technicians from Akçakoca Municipality. Also, if needed, staff including civil engineers, mechanical engineers, electrical technicians and operators and technicians will be employed by the Akçakoca Municipality during the operation phase for annual inspections and maintenance works of the Project. Thus, the above-mentioned potential impacts related to working conditions and worker management will also be in place during the operation phase of the Project.

Personnel to be recruited will be sought primarily in Akçakoca district. If not found, recruitment will be made from neighboring districts and provinces.

The mitigation measures against potential impacts related to working conditions and worker management within the scope of the Project is provided in Chapter 6 of this plan.

5.2.3 Occupational Health and Safety (OHS)

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

Personnel employed during the construction phase and operation phase may be affected by OHS risks including exposure to noise, vibration, dust (including potential dust generated during asbestos containing material), eye hazards, welding/hot work, exposure to hazardous chemicals, working with electrical equipment, falls/trips and slips, traffic, machinery and moving equipment, working at height and falling, working in confined spaces. The mitigation measures against potential risks and impacts of project activities on worker health and safety is provided in Chapter 6 of this plan. OHS risks and impacts should be managed and mitigated by OHS Management Plan and Risk Assessment (including Emergency Plans) to be prepared by the Contractor before the commencement of construction activities for the construction phase and by the Project Owner before the operation commencement.

The spread of infectious diseases among the workers, particularly COVID-19 and its variants, is another potential adverse impact on OHS and community health. This impact can also result in increased pressure on healthcare infrastructure. There is a fire risk due to various electrical faults (such as electric jump, short circuit, ground fault and reverse current).

Akçakoca Municipality and the contractor must provide a safe and healthy work environment. The mitigation measures against potential impacts of project activities on worker health and safety is provided in Chapter 6 of this plan.

5.2.4 Community Health, Safety and Security

The place consists of six (6) sections and serves 192 stalls. The marketplace is open each Tuesday between 5 am to 8 pm including the installation and removal of stalls. The shopping time is between 8 am to 6:30 pm. Within the marketplace service area (approximately 0.20



km²), 1370 citizens are living (approximate area Figure 5-1), and approximate number of visitors is 700 people each Tuesday. The impacts that may pose a risk to community health, safety, and security mostly during construction phase, are considered under the following topics for the Project:

- Noise,
- Dust,
- Traffic accidents (traffic safety),
- Electricity and machine/equipment safety,
- Infectious diseases, i.e., COVID-19 and its variants,
- Gender-based Violence (GBV) including Sexual Exploitation, Abuse and Sexual Harassment (SEA/SH).

During operation phase of the Project, risks and associated potential impacts are as follows:

- Electricity and machine/equipment safety,
- Exposure to project-related emergency situations (fire, etc.) and/or hazardous materials.

The potential risks and impacts to the community must be managed appropriately through the measures addressed in the Mitigation Plan in Chapter 6.

During construction and operation phases, there will be “disadvantaged or vulnerable” individuals/groups, which may be more likely to be adversely affected by the Project impacts and/or more limited than others in their ability to take advantage of a Project’s benefits. Such individual/group is also more likely to be excluded from/unable to participate fully in the mainstream consultation process and may require specific measures and assistance.

No labor influx is foreseen since all the employees employed within the project scope will be provided from the local workforce.

5.2.5 Employment

Personnel will be hired during the construction and operation phases of the Project. Local workforce and recruitment options will be considered initially. In case of immigrant workers and local minorities are hired, all information and documents given within the scope of the work will be translated according to their languages (Arabic or other languages). Therefore, labor influx is not anticipated.

5.2.6 Access to Services



Electricity is prone to damage during the Project's construction phase. Besides, damage in the asphalt of the road that enters and exits the covered market area and collapses on the pedestrian roads may occur.

No impact is expected during the operation phase with the completion of the Project.

5.2.7 Cultural Assets

Since no earthwork will be conducted during the construction phase, there is no likelihood of coming across with cultural assets. However, there may be underground transmission line alignment. A Chance Finds Procedure will be in place (Annex 11) during construction, according to which the relevant authorities will be informed, and the existing guidelines and rules will be followed.

No impact is expected during the operation phase with the completion of the Project.

5.2.8 Land Acquisition

No land acquisition will be needed in this Project since the SPP will be installed on the covered market's roof and the area belongs to Akçakoca Municipality.

5.2.9 Livelihood

The market place consists of six (6) sections and the construction of the Project will be undertaken section by section. During construction, the tradesmen selling in the section under construction will be transferred to other sections and if additional space is needed, the existing car park will be partially used. As a result, the Project will not impact livelihoods since the tradesmen will be able to continue their work during construction.



6 Mitigation Plan

This section includes mitigation plans developed for E&S impacts/risks of pre-construction, construction and operation phases of the Project. During the implementation of the mitigation plans, the most stringent among the national legislation and WB standards and also the most up-to-date legislation will be complied with. “Impact Significance” in Table 6-1 and Table 6-2 is determined considering that no mitigation measures are taken. Impact significance is determined considering the value/sensitivity of a resource/receptor that might be affected and the magnitude of potential impacts on that resource/receptor by taking into account various factors such as legislation, policies, standards; area of influence; persistence of impacts; and status of a resource/receptor.

6.1 Mitigation Plan for the Pre-Construction and Construction Phases of the Project

The mitigation plan for the pre-construction and construction phases of the Project is presented in Table 6-1 and Table 6-2.

Table 6-1. Mitigation Plan for the Pre-Construction Phase

PRE-CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Physical Environment						
Waste Management	Waste	Direct and indirect	Medium	<ul style="list-style-type: none"> • Prepare “Waste Management Plan.” • Train employees on waste management issues. • Contract with licensed companies for recycling/disposal of wastes. 	To be covered within the project budget	Contractor
Waste Management	Wastewater	Direct and indirect	Medium	<ul style="list-style-type: none"> • Connect wastewater discharge from the construction area to the sewerage network 	To be covered within the project budget	Akçakoca Municipality



PRE-CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Chemicals and Hazardous Materials Management	Chemicals/hazardous materials	Direct and indirect	Medium	<ul style="list-style-type: none"> Prepare “Chemicals and Hazardous Materials Management Plan”. Train employees in chemical and hazardous material management. 	To be covered within the project budget	Contractor
Noise & Vibration	Noise/vibration levels	Direct	Medium	<ul style="list-style-type: none"> Prepare “Noise & Vibration Management Plan”. Train employees in noise mitigation measures. 	To be covered within the project budget	Contractor
Air Quality	Air emissions	Direct	Low	<ul style="list-style-type: none"> Prepare “Air Emissions Management Plan”. Train employees in mitigation measures against project-related air emissions. 	To be covered within the project budget	Contractor
Electrical Equipment	Electrical equipment usage	Direct and indirect	Medium	<ul style="list-style-type: none"> Prepare “Electrical Equipment Usage Plan”. Train employees in electrical equipment usage. 	To be covered within the project budget	Contractor
	Fire close to electric facilities	Direct and indirect	Medium	<ul style="list-style-type: none"> Prepare “Fire Management Plan”. Train employees in fire close to electric facilities. 	To be covered within the project budget	Contractor
Socio-Economic Environment						
Community Health & Safety and Security	Emergency situations (i.e. earthquake, abnormal weather conditions, flood)	Indirect	Medium	<ul style="list-style-type: none"> Revise the project static report properly prior to conduct reinforcement works on the rooftop against earthquake risk. Ensure that the “Flood Management Plan of Western Black Sea Basin” dated July 2019 including rehabilitation works for Haciz, Orhan and Sarma Creeks is implemented. 	To be covered within the project budget	Akçakoca Municipality
Community Health & Safety and Security	Potential injuries to public	Direct	Medium	<ul style="list-style-type: none"> Prepare “Community Health & Safety and Security Management Plan” including traffic management issues. Install a robust security system, including power cabling and communications to the central monitoring system. Train employees in the relevant plan. 	To be covered within the project budget	Contractor



PRE-CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Access to Services	Potential damages on existing infrastructure	Direct	Medium	<ul style="list-style-type: none"> Inform the relevant institutions (gas, electricity, etc.) before commencing the construction works and obtain necessary permits to avoid damage to the other structures. 	To be covered within the project budget	Akçakoca Municipality
Cultural Assets	Cultural heritage	Direct	Low	<ul style="list-style-type: none"> Share the Chance Find Procedure given in Annex 11 with potential contractors as part of the bidding documents Train employees and contractors on the chance find procedure. 	To be covered within the project budget	Akçakoca Municipality Contractor
Community Health & Safety and Security	Project Affected Groups	Direct	High	<ul style="list-style-type: none"> Disclose ESMP on the various communication platforms, i.e., municipality website and neighborhood headman's offices, to get public suggestions and comments. Prepare disclosure documents (Posters, brochures, leaflets, vb.) regarding the Project, including the construction schedule. Hold consultation meetings with the local communities regarding the Project components and activities. Ensure that vulnerable/disadvantaged individuals/groups have participated fully in the mainstream consultation process. Prepare "Stakeholder Engagement Plan" SEP, including external grievance redress mechanism (GRM), which enables the community to raise concerns. Train employees on the SEP and GRM. 	To be covered within the project budget	Akçakoca Municipality
Employment	Local labor	Direct	Low	<ul style="list-style-type: none"> Prioritize local workforce and recruitment options as much as possible. Prepare "Human Resources Management Plan and Procedures" Include internal GRM to the SEP. Train employees in human resources policy, SEP, and the internal GRM. 	To be covered within the project budget	Contractor



PRE-CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> Compliance with the code of conduct rules, including Gender-based Violence (GBV) and Exploitation and Abuse and Sexual Harassment (SEA/SH), which are included in the training to be provided, will be in the contract articles of the personnel. 		
Labor and Working Conditions						
Working Conditions	Occupational Health and Safety (OHS)	Direct	High	<ul style="list-style-type: none"> Prefer people with appropriate education/training in the work area they will be recruited for as per “Regulation on Procedures and Principles of Health and Safety Training of Employees”. Provide employees with written contracts containing information about job descriptions, responsibilities, working hours, wages, code and conduct, rights, relationships with the local community and risks about OHS before the commencement of works. Have a full-time OHS Expert as per “Regulation on Duties, Authorities, Responsibilities and Training of Occupational Safety Experts” with relevant certification and experience in charge of OHS and s/he will ensure, control and monitor the site OHS implementations. Have a workplace physician as per “Regulation on Duties, Authorities, Responsibilities and Trainings of Workplace Physicians and Other Health Personnel” so that health checks of employees can be conducted by workplace physician prior to work to obtain no objection report in terms of health. Ensure that workers are equipped with all required personal protective equipment (PPE) (helmet, safety belt, safety outfit, goggles, mask, steel cap boots, gloves, etc.) for OHS 	To be covered within the project budget	Contractor



PRE-CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<p>as per “Regulation on Use of Personal Protective Equipment in Workplaces”.</p> <ul style="list-style-type: none"> Ensure that the following documentation is prepared by contractor(s) in line with the general World Bank Group (WBG) Environmental, Health and Safety (EHS) guidelines; Project and site-specific OHS Management Plan and Procedures (including the issues regarding camp area), Risk Assessment Reports are prepared for all works to be carried out and necessary measures will be taken to avoid these risks as per “OHS Risk Assessment Regulation”. <p>"Emergency Plans" are prepared for a possible accident as per “Regulation on Emergencies at Workplaces” and “First Aid Regulation”. Emergency teams will be built and pieces of training/drills will be carried out in line with the emergency scenarios.</p> <p>Above-mentioned OHS-related documentation will take into consider the COVID-19 risks and other communicable disease risks, as relevant.</p>		
Labor Management	Worker rights	Direct	High	<ul style="list-style-type: none"> Prepare “Human Resources Management Plan and Procedures”. Workers to be issued written contracts with job description, working hours, wages, code and conduct, rights and duties and other relevant information Train employees in human resources policy, SEP and the internal GRM. Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel. Children (under 18) will not be employed. 	To be covered within the project budget	Contractor



Table 6-2. Mitigation Plan for the Construction Phase

CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Physical Environment						
Waste Management	Wastes	Direct and indirect	Medium	<ul style="list-style-type: none"> Undertake measures for minimum waste generation i.e. training personnel to raise awareness and manage in accordance with waste management hierarchy (prevent, reduce, reuse, recycle, recover, dispose). Conduct the temporary storage of all non-hazardous wastes and construction wastes generated due to construction works at the designated temporary storage areas without harming the environment and by defining the waste categories (recyclable, hazardous, inert, non-hazardous, etc.) in line with the “Waste Management Regulation”, “Regulation on Control of Excavated Soil, Construction, and Demolition Wastes” and World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines Environmental (Waste Management) criteria. Recyclable waste, non-recyclable waste and hazardous waste will be separated. There will be bins for recyclable wastes at the project area. These wastes will be collected by the Akçakoca Municipality and disposed of at the licensed companies. Hazardous waste generated in all Project phases will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to licensed disposal facilities via licensed waste transportation companies following the “Waste Management Regulation”. In this respect the mitigation measures for temporary storage area listed below will be taken: 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none">- Wastes will be stored temporarily in a manner that they do not react with each other.- Hazardous and non-hazardous waste storage areas will be segregated also the waste code, the amount of waste stored and the date of storage will be defined on the stored wastes.- Except for medical wastes, hazardous wastes will be stored in the temporary storage area for a maximum of 6 months and non-hazardous wastes for a maximum of 1 year.- If one thousand kilograms or more of hazardous waste per month are produced, a temporary storage permit will be obtained from the PDEUCC.- Dangerous Goods and Hazardous Waste Compulsory Liability Insurance will be taken out for hazardous waste temporary storage area/containers.- Impermeability will be provided on the floors of the temporary storage area and a suitable drainage system will be installed. Spill kits will be available against environmental contamination.• Records of waste generation, storage, and disposal will be maintained.• Personal protective equipment (PPE) will be considered medical wastes and stored and disposed of separately from other wastes as per the “Medical Waste Control Regulation” and guides published by the Ministry of Health.• Domestic solid waste generated will be stored in containers by the contractor and will be collected by Akçakoca Municipality, and transported to licensed sanitary landfill operated by Düzce Municipality that has sufficient capacity for disposal of such waste. Waste generation, storage, and disposal records will be kept.		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> • Training to the employees regarding waste management practices to raise awareness on waste reduction will be provided. • Construction wastes will be transported and disposed of separately following “Regulation on Control of Excavated Soil, Construction, and Demolition Wastes” and WBG General EHS Guidelines Environmental (Waste Management). The project will make use of existing licensed construction waste storage sites in Akçakoca District or Düzce Province. These wastes will not include asbestos bearing wastes • Incineration or burying of waste by any means and/or dumping to nearby water resources will not be allowed. • Other special wastes such as batteries, waste vegetable oil, waste tires, etc. will be stored separately at the construction site, transported by licensed transport vehicles to licensed waste collector companies. • “Waste Management Plan” will be implemented. 		
Waste Management	Old Roof Material (Asbestos bearing waste)	Direct	High	<ul style="list-style-type: none"> • A disposal plan will be prepared for the asbestos bearing material for the existing roof material • The wastes will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to licensed disposal facilities via licensed waste transportation companies following the “Waste Management Regulation”. 	To be covered within the project budget	Contractor
Chemicals and Hazardous Materials Management	Chemicals and hazardous materials	Direct and indirect	Medium	<ul style="list-style-type: none"> • For the storage of hazardous materials: <ul style="list-style-type: none"> - Maintain up-to-date Safety Data Sheets (SDS) of each chemical, - Prepare an inventory of hazardous materials in both English and Turkish, - Make PPE available for relevant personnel, - Train relevant personnel. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> To prevent potential spills, all hazardous materials will be stored in designated areas with secondary containment and handled by authorized staff. Leak-proof containers labeled with information on their composition, properties, and handling information will be used for temporary storage to avoid spillage and leaching. The conditions of the vehicles and other machinery equipment to be used during the works will be regularly reviewed /checked. The actions to be taken in an emergency and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. Temporarily storage of waste oils and other hazardous wastes will comply with the “Regulation on the Management of Waste Oils” in addition to “Waste Management Regulation” and disposed to the licensed facilities (recycling, recovery or final disposal) according to the related regulations. Fuel oil will not be stored at the construction site as informed by the Sub-borrower. The refueling operations of the work vehicles will be conducted at the authorized services. “Chemicals and Hazardous Materials Management Plan” will be implemented. 		
Noise & Vibration	Deterioration on community/ occupational health due to generation of noise & vibration	Direct	Medium	<ul style="list-style-type: none"> All construction works will be planned in line with the Regulation on Environmental Noise Control (RENC) provisions to minimize potential noise impacts on the nearby communities. Construction equipment will not be operated simultaneously. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none">• Working hours will be limited between 10:00 a.m (i.e. the allowed start time for construction activities as per the RENC) and 19:00 pm (i.e. the end of the daytime period as per the RENC) to minimize the impact• A schedule and/or other restrictions will be defined for the works carried out.• The residents of nearby settlements will be informed about the time of construction activities by Akçakoca Municipality.• Compliance will be ensured with the (daytime) 55 dBA limit value (WBG General EHS Guidelines Environmental Noise) for continuous worksite noise at the vicinity of the Project site and sensitive receptors, such as schools, houses, health centers, etc. .• Regular maintenance of the construction equipment and vehicles will be performed.• Employees will be trained in noise mitigation measures and reducing noise generation.• Drivers of trucks and vehicles will adhere to defined speed limits and be warned against creating unnecessary noise by using horns.• Ensure that equipment and parts are selected to comply with the ground vibration velocity values given in Table-5 of Annex II as specified in Article15 of the Regulation on Environmental Noise Control.• Project GRM will be implemented.• Noise measurements will be conducted accordingly if any grievance regarding noise generation is received from the nearest receptors. If measured levels are above previously mentioned limit values, mitigation measures here will need to be enhanced in this respect, i.e., selecting equipment with lower sound power levels, installing		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<p>acoustic barriers/vibration isolation for mechanical equipment, limiting the hours of operation for specific pieces of equipment or operations, etc.</p> <ul style="list-style-type: none"> • “Noise & Vibration Management Plan” will be implemented. 		
Air Quality	Dust emissions	Direct	Low	<ul style="list-style-type: none"> • Compliance will be ensured with the air emission limit values addressed in “Regulation on Assessment and Management of Air Quality” (RAMAQ) and WBG General EHS Guidelines Environmental Air Emissions and Ambient Air Quality. • The trucks that transport materials will be covered to decrease dust emission. • The road will be wetted as needed to settle dust during transfer works. • Excess material will be removed and the work site will be cleaned after completing works. • Use of protective covers or curtains for the areas where most of the dust is formed. • Speed limits will be followed strictly. • The wheels of the vehicles will be washed periodically. • The construction equipment and vehicles need to be regularly checked, and the maintenance of appropriate equipment will be performed to reduce dust and gas emissions. • “Air Emissions Management Plan” will be implemented. • Employees will be trained in the management of air emissions. • Project GRM will be implemented. • Dust measurements will be conducted by an accredited laboratory accordingly if any grievance regarding dust generation is received from the nearest receptors. If measured levels are above the air emission limit values 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				addressed in both the national and WBG EHS Guidelines, mitigation measures here will need to be enhanced in this respect i.e. increasing wet suppression/watering activities, applying non-toxic chemicals, further reducing speed/traffic, monitoring the weather conditions/adjusting the work program as required to respond to dry or windy conditions.		
	Exhaust gases	Direct	Low	<ul style="list-style-type: none"> Compliance will be ensured with the air emission limit values addressed in Regulation on Control of Industrial Air Pollution (RCIAP), Regulation on Management of Air Quality (RAMAQ), Regulation on Control of Exhaust Gas Emissions and WBG General EHS Guidelines Environmental Air Emissions and Ambient Air Quality. The construction equipment and vehicles need to be regularly checked, and the maintenance of appropriate equipment will be performed to reduce exhaust gas emissions. New and well-maintained vehicles will be used to control the gas emissions generated within the activity's scope. It will be ensured that every vehicle used for transportation during construction has a valid 'Motor Vehicles Exhaust Emission Measuring Stamp'. Unnecessary use of machinery and equipment causing emissions will be prevented. Project GRM will be implemented. Employees will be trained in the management of air emissions. "Air Emissions Management Plan" will be implemented. 	To be covered within the project budget	Contractor
Water Sources and Wastewater	Water use and wastewater generation	Direct	Low	<ul style="list-style-type: none"> The wastewater will be connected to the nearby municipal wastewater collection line and will ultimately be treated at Akçakoca Wastewater Treatment Plant that has sufficient capacity. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> All construction activities will be performed in compliance with “Water Pollution Control Regulation”. The drinking water and domestic water will be provided as bottled water and from the municipal water line, respectively, in compliance with the “Regulation on Water Intended for Human Consumption” requirements. Surface runoff due to dust suppression activities will be prevented. The water to be used for dust suppression will be followed in m³. Hazardous materials and wastes will be stored in designated areas with secondary containment and handled with care by authorized staff to prevent potential spills, thereby contaminating water sources due to surface runoff. Emergency Plan will include responses against fire water including hazardous materials in solar panel, which may occur as a result of any possible emergency (i.e. environmental accident, explosion, fire). 		
Soil Quality	Soil Contamination	Direct	High	<ul style="list-style-type: none"> During trench excavations and warehouse construction works, oil and fuel oil filling process to machinery and vehicles will be made in an impermeable area or a dike. The conditions of the vehicles and other machinery equipment to be used during the works will be regularly checked. The actions to be taken in an emergency case and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. Employees will be trained on the management of chemicals and hazardous materials. “Chemicals and Hazardous Materials Management Plan” will be implemented. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Regulations	Enforcement Actions by Regulatory Authorities	Direct	High	<ul style="list-style-type: none"> Keep enforcement records (audit reports, etc.) 	To be covered within the project budget	Contractor
Biological Environment						
Landscape	Aesthetic and landscape problem (Visual pollution)	Direct	Low	<ul style="list-style-type: none"> Employees will be trained in good housekeeping practices implemented. 	To be covered within the project budget	Contractor
Socio-Economic Environment						
Community Health & Safety and Security	Transportation safety	Direct	High	<ul style="list-style-type: none"> Place visible warning and informative signs on the construction area as per “Regulation on Health and Safety Signs”. Inform the residents/visitors and the people working in the covered market about the works to be executed at least one (1) week in advance by Akçakoca Municipality. Place clear signage for visitors to the covered market. Identify alternative roads not to cause any problems in the streets used by the local public during working hours. Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges and other vulnerable/disadvantaged groups, such as pregnant, elderly, children. Conform to speed limits. Inform the drivers who work during construction and work machine operators about safe driving. During the transportation activities, the existing roads will not be damaged and compensation will be of concern in the event of any damage. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> Implement “Community Health & Safety and Security Management Plan,” including traffic management issues. 		
Community Health & Safety and Security	Pedestrian safety	Direct	High	<ul style="list-style-type: none"> Perimeter safety of the worksite will be established to restrict unauthorized access to the construction site, and audio and flashing warning signs will be installed to sustain safety and security. Measures (fences, warning signs, etc.) will be taken to prevent unauthorized access to the construction site to minimize potential adverse impacts on the community particularly people working in or visiting the covered market. Unauthorized access to the roof area will be particularly prevented and it will be locked. Build temporary pedestrian walks or walkways for safety in compliance with the requirements for the passage of individuals with physical challenges and other vulnerable/disadvantaged individuals/groups, such as pregnant, elderly, children. Provide adequate number of security personnel. Implement “Community Health & Safety and Security Management Plan,” including traffic management issues. 	To be covered within the project budget	Contractor
Community Health & Safety and Security	Traffic safety	Direct	High	<ul style="list-style-type: none"> Take safety measures for the traffic flow in line with the approved traffic circulation projects and install warning signs as per “Highway Traffic Law”. Inform drivers about the alternative passage routes. Time traffic flows to avoid periods of heavy traffic along main access roads. Equip all heavy goods vehicles with audible reversing alarms. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> • Provide appropriate supervision through the contractor to control the flow of traffic when machinery needs to crossroads. • Provide training on safe driving techniques to the drivers. • Check driver licenses. • Ensure that speed limits are in a place where necessary. • Adhere to defined speed limits. • Implement good practices to avoid overtiredness i.e., adopting limits for trip duration and arranging driver rosters. • Ensure that vehicle maintenance is regularly conducted and manufacturer-approved parts are used against equipment malfunction or premature failure. • Ensure that the Emergency Plans includes traffic-related emergencies. • Implement “Community Health & Safety and Security Management Plan” including traffic management issues. 		
Access to Services	Damage on existing infrastructure	Direct	Medium	<ul style="list-style-type: none"> • Ensure that all necessary permits are in place to avoid any damage to the other structures. • Any damage or collapse on the road or pavement that enters and exits the covered market place will be followed and necessary repairs will be made. • Implement “Community Health & Safety and Security Management Plan”. 	To be covered within the project budget	Contractor
Cultural Assets	Cultural heritage	Direct	Low	<ul style="list-style-type: none"> • In case of findings, stop all activities, secure the site and contact related authorities to find historic artifacts and materials with cultural or historical value. • Organize all necessary measures to protect the related area. • Stop all activities until official instruction is received. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> For any findings, the Chance Finds Procedure in Annex 11 will be in place and implemented, in which communication with the relevant authorities and application of the “Law on the Protection of Cultural and Natural Assets” are addressed. 		
Community Health & Safety and Security	Project Affected Groups / Stakeholder Engagement	Direct	Medium	<ul style="list-style-type: none"> Disclose ESMP on the platforms, i.e., municipality website and neighborhood headman's offices to get public suggestions and comments. Prepare disclosure documents (Posters, brochures, leaflets, vb.) regarding the project, including the construction schedule. Hold consultation meetings with the local communities regarding the Project components and activities. Inform the public regularly about the latest traffic arrangements and construction schedule. Ensure that vulnerable/disadvantaged individuals/groups participate fully in the mainstream consultation process. Implement “Stakeholder Engagement Plan”. GRM that will enable the community to raise concern will be implemented. Keep Grievance Register. 	To be covered within the project budget	Akçakoca Municipality
Employment	Local labor	Direct	Low	<ul style="list-style-type: none"> Local workforce and recruitment options will be considered as much as possible. Furthermore, if accommodation is required for the employees specialized in a particular matter and arriving from out of town, accommodation will be provided at appropriate locations. Implement “Human Resources Management Plan and Procedures” including “Internal GRM”. Employees will be provided training on critical issues, human resources policy and the internal GRM. Internal GRM will be implemented. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Labor and Working Conditions						
OHS	Injured employees due to incidents, accidents and near misses	Direct	High	<ul style="list-style-type: none"> • Provide a safe and healthy work environment for the employees by following all regulations, procedures and principles published regarding OHS as part of OHS Law. • Have a full-time OHS Expert as per “Regulation on Duties, Authorities, Responsibilities and Training of Occupational Safety Experts” with relevant certification and experience in charge of occupational health and safety and s/he will ensure, control and monitor the OHS implementations. • Have a workplace physician as per “Regulation on Duties, Authorities, Responsibilities and Trainings of Workplace Physicians and Other Health Personnel”. Ensure that no objection certificate is in place for all employees. • Prefer people with appropriate education/training within the work area they will be recruited for. • Provide employees with written contracts containing information about job descriptions, responsibilities, working hours, wages, code and conduct, rights, relationships with the local community and risks about OHS i.e. required safety rules, risks and related regulations to be followed. In this respect, provide orientation and periodical training to the personnel on OHS issues as per “Regulation on Procedures and Principles of Health and Safety Training of Employees” and record all provided training. • Ensure that workers are equipped with all required PPE (helmet, safety belt, safety outfit, goggles, mask, protective boots, gloves, etc.) for OHS as per “Regulation on Use of Personal Protective Equipment in Workplaces”. • Provide equipment that meets international standards in terms of performance and safety. 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> • Develop and implement permit-to-work system and follow work procedures for which i.e. exposure to noise, vibration, dust, eye hazards, welding/hot work, exposure to hazardous chemicals, working in trenches, working with electrical equipment, rotating and moving equipment, confined areas, work at height, falls/trips and slips, traffic, etc., • Prior to work at height, identify points where there is risk of falling, provide proper temporary/persistent lifelines and ensure safe points to which safety belts can be fastened. • Below measures against electrical risks to eliminate hazards and ensure safety will be taken: • Ensure only licensed electrical workers undertake electrical work, • Ensure, where possible, all PV equipment is isolated before work commences, • Ensure all electrical interconnections between the inverter and the switchboard or distribution panel are installed by a licensed electrical worker and the inverter is disconnected from the source of electricity before work is performed, • Use appropriate tools when working on electrical equipment, • Ensure electrical equipment used for measurements or testing has suitable insulation properties and ratings for the voltages (Alternating Current (AC) or Direct Current (DC)) present, • Make sure adequate earthing is installed, • Ensure electrical parts are de-energized when making or breaking connections, 		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> • Use appropriate warning labels on all electrical equipment, • Ensure high voltage AC transmission lines from the solar farm to the transmission or distribution network are de-energized and earthed until they are ready for commissioning and the earthing system or grid is complete. • Carry out loading and unloading activities together with the dedicated and competent persons to oversee the activity (flagman, banksman, rigger etc.). • Safety net will be installed in case of any falling from the roof. • Ensure that areas where construction work is carried out, will not be accessible other than the authorized personnel. • Take measures against slip, trip and fall hazards. • Install OHS warning signs where necessary as per “Regulation on Health and Safety Signs”. • Ensure that the following documentation is implemented by contractor; <ul style="list-style-type: none"> – Site-specific OHS Management Plan and Procedures, – Risk Assessment Reports are prepared for all works to be carried out and necessary measures will be taken to avoid these risks as per “OHS Risk Assessment Regulation”. – "Emergency Plans" are prepared for a possible accident as per “Regulation on Emergencies at Workplaces” and “First Aid Regulation”. Emergency teams will be built and training/drills will be carried out in line with the emergency scenarios. • Provide toolbox talks including the code of conduct to the employees indicating the possible risks regarding the worksite and works to be carried out. These will include 		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<p>regular trainings to workers on COVID-19 symptoms, how to be protected and what to do when symptoms appear.</p> <ul style="list-style-type: none">• Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.).• The Contractor will immediately notify Akçakoca Municipality in case of any significant environmental (including OHS) or social events (e.g., fatalities, loss of time incidents, environmental spills, etc.), and Akçakoca Municipality will inform ILBANK A.Ş. (ILBANK) and World Bank (WB) about the incident within 48 hours. A report on the root causes of the incident and the corrective actions to be taken will be submitted to ILBANK and WB within 30 days.• Ensure that the following mitigation measures are in place due to particularly COVID-19 and its variants' outbreak in line with Guidance, directives and recommendations of Ministry of Health, Ministry of Labour and Social Security, World Health Organization (WHO) and the WB:<ul style="list-style-type: none">- Providing surveillance and active screening and treatment of workers,- Conducting training for employees on prevention from COVID-19 and its variants,- Immunizing workers to improve health and guard against infection,- Getting medical clearance is required for return to work for all employees diagnosed with COVID-19 and its variants,- Conducting track and trace investigation following COVID-19 and its variants' control program.		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> • Areas where smoking is prohibited will be determined. • Construction areas will be fenced/surrounded with appropriate materials and necessary security measures will be taken that no one will be allowed to enter the construction areas except the workers/staff. • Project Owner will ensure that all OHS measures are taken by the Contractor and enforce necessary actions/sanctions in case lack of these measures on sites. 		
OHS	Working with Asbestos-containing roof material	Direct	High	<ul style="list-style-type: none"> • Asbestos-containing roofing materials will be removed and disposed by the licensed companies in compliance with “Regulation on Health and Safety Measures in Working with Asbestos”. • Specific risk assessment study will be conducted before removal works and necessary mitigation measures will be taken accordingly. • Asbestos Management Plan will be prepared and implemented to remove asbestos-containing roofing material. Training will be provided to workers/staff on the Asbestos Management Plan. • Regulation on Health and Safety Measures for Working with Asbestos will be strictly followed. • Works including asbestos removal will be done under the supervision of an “asbestos removal expert”, who has a vocational training certificate. • The Provincial Directorate of Labor and Employment Institution will be kept informed. • Proper personal protective equipment and appropriate respiratory protection will be used. • Personal protective equipment will not be taken out of the workplace. Protective clothing is cleaned in the workplace 	To be covered within the project budget	Contractor



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<p>or where cleaning work is conducted and will only be removed in closed containers.</p> <ul style="list-style-type: none">• Suitable hand and face washing facilities will be provided to the employees, and shower facilities will be provided.• Necessary health checks for the personnel will be conducted.• Proper contamination measures will be conducted to keep the environment safe.• Necessary markings for asbestos will be posted at construction areas and warning signs will be hung where necessary.• Where asbestos removal is required, wetting agent will be used to keep asbestos dust to a minimum before dismantling.• Personnel and related people will be informed and trained.• Working and exposure time will be recorded. Records are retained for at least 40 years after exposure to asbestos dust has ceased.• The places reserved for eating and drinking will be chosen outside the areas where there is a risk of contamination with asbestos dust.• Asbestos wastes will be collected separately from other wastes and disposed of according to the Waste Management Regulation provisions that will include transport to licensed Class I landfills with licensed trucks.• Where asbestos required to be stored temporarily, this hazardous waste will be kept in securely closed containers and appropriately labelled.• Regarding the works including a risk of exposure to asbestos dust, a risk assessment will be made by considering the type and physical properties of asbestos and the degree of exposure of workers.		



CONSTRUCTION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none">Removed asbestos will not be reused.Communiqué on Educational Programs on Asbestos Removal will be considered.		
Worker Management	Unequal opportunity and unfair treatment; employing children (under 18); Gender-based Violence (GBV) and Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH)	Direct	High	<ul style="list-style-type: none">Follow all regulations, procedures and principles published regarding labor and working conditions as part of Labor Law.Train employees on human resources policy together with the internal GRM.Ensure employees work in a fair-treated work environment with no discrimination and offer equal opportunities for all personnel employed.Ensure that child labor is not employed during the Project's construction phase.Implement "Human Resources Management Plan and Procedures," including "Internal GRM".Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel.	To be covered within the project budget	Contractor



6.2 Mitigation Plan for the Operation Phase of the Project

The mitigation plan for the operation phase of the Project is presented in Table 6-3 below. During the implementation of the mitigation plans, the most stringent among the national legislation and WB standards and the most up-to-date legislation will be complied with. “Impact Significance” in Table 6-3 is determined considering that no mitigation measures are taken. Impact significance is determined considering the value/sensitivity of a resource/receptor that might be affected and the magnitude of potential impacts on that resource/receptor by taking into account various factors such as legislation, policies, standards; area of influence; persistence of impacts; and status of a resource/receptor.

Table 6-3. Mitigation Plan for the Operation Phase

OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Physical Environment						
Chemicals and Hazardous Materials Management	Environmental contamination due to spills/leakages	Direct and indirect	Medium	<ul style="list-style-type: none"> • The conditions of the vehicles and other machinery equipment to be used during the works will be regularly checked. • For the spill prevention; <ul style="list-style-type: none"> - Ensure clean up measures can be taken using a spill kit for eventual disposal by the licensed handler - Use drip tray during maintenance etc. • The actions to be taken in an emergency case and assigned to emergency teams will be defined. Appropriate cleaning equipment for spills and accidents will be procured and maintained at the site, and cleaning teams will be transferred to use the equipment. • Employees will be trained in the management of chemicals and hazardous materials. • For the storage of hazardous materials. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> - Maintain up-to-date Materials Safety Data Sheets (MSDS) of each chemical - Prepare an inventory of hazardous materials in both English and Turkish, if needed Arabic or other languages - Make PPE available for relevant personnel - Train relevant personnel - Keep hazardous materials at designated areas as specified on MSDSs. • Implement “Chemicals and Hazardous Materials Management Plan”. 		
Regulations	Enforcement Actions by Regulatory Authorities	Direct	High	<ul style="list-style-type: none"> • Keep enforcement records (audit reports, etc.) 	To be covered within the project budget	Akçakoca Municipality
Waste Management	Waste generation	Direct and indirect	Medium	<ul style="list-style-type: none"> • Undertake measures for minimum waste generation, i.e., training personnel to raise awareness and manage in accordance with waste management hierarchy (prevent, reduce, reuse, recycle, recover, dispose). • Dispose of wastes at licensed facilities according to their category in compliance with “Waste Management Regulation”. • Implement “Waste Management Plan”. The plan will include management of waste solar panels which are broken or needed to be replaced. • Training to the employees regarding waste management practices to raise awareness on waste reduction will be provided. • Conduct the temporary storage of all non-hazardous wastes at the designated temporary storage areas without harming the environment and by defining the waste categories (recyclable, hazardous, inert, non-hazardous, etc.) in line with the “Waste 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<p>Management Regulation”, and WBG General EHS Guidelines Environmental (Waste Management) criteria.</p> <ul style="list-style-type: none">• Recyclable waste, non-recyclable waste and hazardous waste will be separated. There will be bins for recyclable wastes at the project area. These wastes will be collected by the Akçakoca Municipality and disposed at the licensed companies.• Hazardous waste, generated in all Project phases will be collected separately in covered and impermeable containers depending on their characteristics and types and will be transferred to a licensed disposal facility via licensed waste transportation companies following the “Waste Management Regulation”. In this respect the mitigation measures for temporary storage area listed below will be taken:<ul style="list-style-type: none">- Wastes will be stored temporarily stored in a manner that they do not react with each other.- Hazardous and non-hazardous waste storage areas will be segregated also the waste code, the amount of waste stored and the date of storage will be defined on the stored wastes.- Except for medical wastes, hazardous wastes will be stored in the temporary storage area for a maximum of 6 months and non-hazardous wastes for a maximum of 1 year.- If it is produced one thousand kilograms or more of hazardous waste per month, a temporary storage permit will be obtained from the PDEUCC.- Dangerous Goods and Hazardous Waste Compulsory Liability Insurance will be taken out for hazardous waste temporary storage area/containers.		



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> - Impermeability will be provided on the floors of the temporary storage area and a suitable drainage system will be installed. Spill kits will be available in the temporary waste storage area. • PPE will be considered medical wastes. It will be stored and disposed of separately from other wastes as per the “Medical Waste Control Regulation” and guides published by the Ministry of Health. • Incineration or burying of waste by any means and/or dumping to nearby water resources will not be allowed. • Other special wastes such as batteries, waste vegetable oil, waste tires, etc. will be stored separately at the construction site, transported by licensed transport vehicles to licensed waste collector companies. • Domestic solid waste generated will be stored in containers by the contractor and will be collected by Akçakoca Municipality, and transported to licensed sanitary landfill operated by Düzce Municipality that has sufficient capacity for disposal of such waste. Waste generation, storage, and disposal records will be kept. 		
Water Sources and Wastewater	Water use	Direct	Low	<ul style="list-style-type: none"> • The drinking water will be provided as bottled water, in compliance with the Regulation on Water Intended for Human Consumption requirements. • Water need for cleaning/washing will be provided from the municipal water source located at the north of the covered market 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				and brought to the site via tanks. The water used for the process will be in line with the solar panel maintenance requirements.		
	Wastewater	Direct	Medium	<ul style="list-style-type: none"> Emergency Plan will include responses against fire water including hazardous materials in solar panel which may occur as a result of any possible emergency (i.e. environmental accident, explosion, fire). The wastewater to be originated as a result of cleaning/washing process will not include any chemical or hazardous material but sludge. Thus, this wastewater will be discharged to Akçakoca Municipality sewerage infrastructure in compliance with the “Water Pollution Control Regulation”. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality
Socio-Economic Environment						
Community Health & Safety and Security	Flood risk	Indirect	Medium	<ul style="list-style-type: none"> Ensure that the “Flood Management Plan of Western Black Sea Basin” dated July 2019 including rehabilitation works for Haciz, Orhan and Sarma Creeks is implemented. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality
Community Health & Safety and Security	Traffic safety	Direct	Medium	<ul style="list-style-type: none"> Ensure that drivers working for procurement activities, waste disposal activities, etc. know safe driving techniques to prevent traffic accidents and minimizing injuries suffered by the public. Require licensing of drivers. Ensure that all vehicles are subjected to regular maintenance. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality
Community Health & Safety and Security	Emergencies (natural hazards, vandalism, theft, etc.)	Direct	High	<ul style="list-style-type: none"> Install lighting for the solar power plant (SPP), parking lots, walkways, entrances and sensitive areas to avoid easy vandalism or theft during hours of darkness. Place security cameras to cover every angle. Ensure that Emergency Plans include specific emergency issues regarding community including vulnerable/disadvantaged individuals/groups and address particular response actions to be implemented during emergencies. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
Community Health & Safety and Security	Failure of the PV Modules	Direct	Medium	<ul style="list-style-type: none"> To prevent potential failure of the plant, provide regular inspection and unscheduled support, which involves the departure of the emergency team, diagnostics and repair work, and several equipment which they listed as below: Check the condition of cables and equipment. Execute regular thermal inspection of connection boxes and power circuits. Measure the insulation resistance of cables and equipment Conduct an audit of contact compounds. Implement grounding resistance measurement. Measure temperature of PV modules and inverter power section. Clean the inverter from dust and dirt. Check bolt connections. Inspection of all equipment and insulation for mechanical damage. Process the indicators and electronic layout transfer. Emergency Plan will include responses against a risk of fire due to various electrical faults (such as electric jump, short circuit, ground fault and reverse current). 	To be covered within the project budget	Akçakoca Municipality
Community Health & Safety and Security	Stakeholder engagement	Direct	Low	<ul style="list-style-type: none"> Implement the Grievance Redress Mechanism for the community (external) and workers (internal), which is developed specifically for the Project and presented in SEP. Keep Grievance Register. Implement “Stakeholder Engagement Plan”. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality
Labor and Working Conditions						
Occupational Health and Safety (OHS)	Injured employees due to incidents,	Direct	High	<ul style="list-style-type: none"> Follow all regulations, procedures and principles published regarding labor and working conditions as part of OHS Law. An adequate OHS organizational structure, as defined in relevant legislation, will be defined and the required number of OHS 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
	accidents and near misses			<p>officers/experts should be appointed. Provide safety and induction training to employees/workers as per “Regulation on Procedures and Principles of Health and Safety Training of Employees” and keep records of all trainings provided.</p> <ul style="list-style-type: none"> • Provide first-aid training to the relevant workers as required by First Aid Regulation. • Develop and implement permit-to-work system and follow work procedures for which i.e. exposure to noise, vibration, dust, eye hazards, welding/hot work, exposure to hazardous chemicals, working in trenches, working with electrical equipment, rotating and moving equipment, confined areas, work at height, falls/trips and slips, traffic, etc., • Prior to work at height, identify points where there is risk of falling, provide proper temporary/persistent lifelines and ensure safe points to which safety belts can be fastened. • Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.). • Below mitigation measures against electrical risks to eliminate hazards and ensure safety will be taken: • Perform electrical work during operation and maintenance phase, • Identify the inspection and testing requirements, • Identify the system monitoring and fault-finding requirements, • Constantly check tightness and corrosion of electrical connections (to prevent fire), • Check the integrity of the structures. • Ensure that the following documentation is prepared and implemented; <ul style="list-style-type: none"> – Site specific OHS Management Plan and Procedures, 		



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
				<ul style="list-style-type: none"> - Risk Assessment Reports in compliance with the “OHS Risk Assessment Regulation”. Risk analysis will include assessment of fire risk in PV systems. Apart from fire; storm, hail and lightning risks will be also evaluated separately. - "Emergency Preparedness and Response Plans" as per “Regulation on Emergencies at Workplaces” and “First Aid Regulation”. Emergency teams will be built and training/drills will be carried out in line with the emergency scenarios. 		
OHS	COVID-19 pandemic	Direct	High	<ul style="list-style-type: none"> • Develop and implement COVID-19 Control Action Plan and inform employees/workers/visitors on infection control policies • Establish a COVID-19 Infection Control Committee. • Follow all the guidance, directives and recommendations of Ministry of Health, Ministry of Labor and Social Services, World Health Organization (WHO) and the World Bank (WB) and implement all relevant necessary measures, both for OHS of employees and for workplaces, in case of an outbreak of any other pandemic/communicable disease including COVID-19. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality
Worker Management	Unequal opportunity and unfair treatment; employing children (under 18); Gender-based Violence (GBV) and Sexual Exploitation and Abuse and Sexual	Direct	Medium	<ul style="list-style-type: none"> • Follow all regulations, procedures and principles published regarding labor and working conditions as part of Labor Law. • Prepare and implement “Human Resources Management Plan and Procedures” including “Internal GRM”. • Train employees on human resources policy together with the internal GRM. • Ensure employees work in a fair- treated work environment with no discrimination and offer equal opportunities for all personnel employed. • Compliance with the code of conduct rules, including GBV and SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel. 	To be covered by the Akçakoca Municipality	Akçakoca Municipality



OPERATION PHASE						
Issue	Potential Impact	Type of Impact (Direct and/or Indirect)	Impact Significance (Low, Medium, High, Extremely High)	Mitigation Measures	Cost	Responsible Party
	Harassment (SEA/SH)					



7 Monitoring Plan

Akçakoca Municipality will monitor the E&S impacts/risks of the project activities on a regular basis against Environmental, Social and Occupational/Community Health and Safety Key Performance Indicators (KPIs) clarified considering relevant national legislation and international standards by Akçakoca Municipality. Monitoring procedures and subsequent reporting in an appropriate format to be developed in this respect will be clarified and conducted by the Akçakoca Municipality. Moreover, during the implementation of the monitoring plans, the most stringent among the national legislation and WB standards and also the most up-to-date legislation will be complied with.

7.1 Monitoring Plan for the Pre-Construction and Construction Phases of the Project

The monitoring plan for the pre-construction and construction phases of the Project is presented in Table 7-1 and Table 7-2, respectively.

Table 7-1. Monitoring Plans for the Pre-construction Phase

PRE-CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators or Document Required	Cost	Responsible Party
Permit & License									
Permitting	Project Area	Before commencement of works	Permits issues regarding the Project	A permit register	Comply with the Environmental Law and Relevant Regulations	Environmental Law and Relevant Regulations	Completed permitting processes -All permits in place	To be covered within the project budget	Akçakoca Municipality Contractor
Socio-Economic Environment									
Management Plans									
Management Plans	Project area	Before the commencement of works	Preparation of management plans listed in the mitigation plan such as Waste Management Plan, Chemicals and Hazardous Materials Management Plan, Noise and Vibration Management Plan,	Review of management plans	Comply with ESMP and relevant regulations Regulation on Waste Management Regulation on Safety Data Sheets Regarding Dangerous Substances and Mixtures	ESMP commitments	Plans and training records in place Approval letters of management plans obtained from relevant authorities (if necessary)	To be covered within the project budget	Contractor Akçakoca Municipality



PRE-CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators or Document Required	Cost	Responsible Party
			Air Emissions Management Plan, Community Health and Safety Plan and Security Plan, site-specific OHS Management Plan, Emergency Plan, Risk Assessment Reports Electrical Equipment Usage Plan, Fire Management Plan, Asbestos Management Plan, Human Resources Management Plan and Procedures. Training of employees/workers on the plans		Regulation on Environmental Noise Control Regulation on Assessment and Management of Air Quality Highway Traffic Law Right to Information Law. 4982 Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 OHS Law and regulations Labor Law and regulations WBG General EHS Guidelines				
Cultural Assets	Project Area	Before the commencement of works	Identification of the management of cultural heritage	Training of employees and workers on the Chance Find Procedure	Comply with Law No. 2863 protecting archaeological and cultural heritage Chance Find Procedure	Law No. 2863 on the Protection of Cultural and Natural Assets WB OP Physical Cultural Resources	Chance Finds Procedure and training records in place	To be covered within the project budget	Contractor
Trainings									
Trainings	Project area	Before the commencement of works	Training of employees on management plans	Review of training materials and training records	Ensure employees trained on management plans before construction works start	ESMP commitments	Training records of employees Number of trainings per year	To be covered within the project budget	Contractor
Labor and Working Conditions									



PRE-CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators or Document Required	Cost	Responsible Party
Labor and Working Conditions	Project area	Before the commencement of works	Employment of a full-time Occupational Safety Expert Preparation of OHS Management Plan, Human Resources Management Plan and procedures Provision of appropriate PPE to all workers Training of employees and workers on the plans and procedures	Review of social security records, employee records/ contracts Review of PPE delivery records	Comply with the WBG General EHS Guidelines, OHS Law, Labor Law and regulations and ESMP	WBG General EHS Guidelines ESMP commitments OHS Law and regulations	Employment document of Occupational Safety Experts Working hours per week Labor turnover Number of complaints from workers	To be covered within the project budget	Contractor

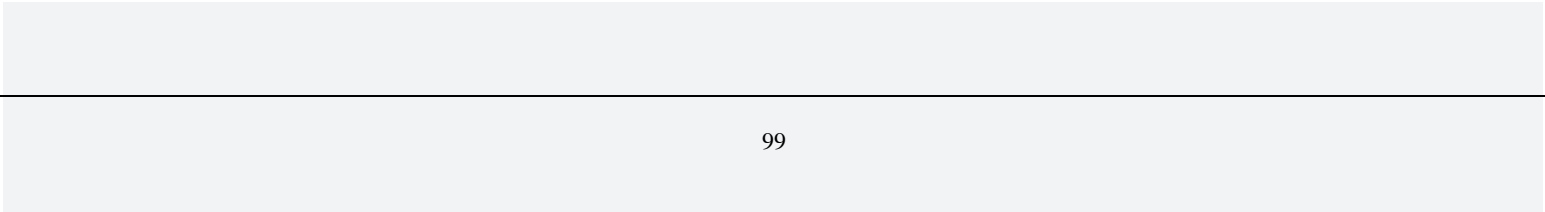




Table 7-2. Monitoring Plans for the Construction Phase

CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Physical Environment									
Air quality	Sensitive receptors	In case any grievance during the reinforcement works	Dust emission	Dust measurement (via an authorized environmental laboratory) Visually (based on the irritation in the respiratory system)	Comply with the legal limits addressed in the Regulation on Assessment and Management of Air Quality (RAMAQ) WHO Ambient Air Quality Guidelines	WBG General EHS Guidelines: Environmental (Air Emissions and Ambient Air Quality) WBG EHS Guidelines: Community Health and Safety WBG EHS Guidelines: Construction and Decommissioning RAMAQ	Records of air emission measurements in compliance with national and international regulations Number of air emission levels complied with the national and international limits	To be covered within the project budget	Contractor
	Project area	At early stage of the operations	Exhaust emissions	Maintenance and inspection documents of vehicles will be checked. The exhaust gas emission measurement documents will be checked.	Comply with the legal limits addressed in the Regulation on Control of Industrial Air Pollution (RCIAP), Regulation on Control of Exhaust Gas Emissions and WBG General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality	Regulation on Control of Exhaust Gas Emissions WBG EHS Guidelines: Community Health and Safety WBG EHS Guidelines: Construction and Decommissioning	Exhaust measurements in compliance with national and international regulations Up to date maintenance and inspection records of vehicles	To be covered within the project budget	Contractor
Water Quality	Orhan Creek	Once in a month	Parameters specified in Regulation on Surface Water Quality	Water analysis done by licensed laboratory	Comply with the Regulation on Surface Water Quality	Regulation on Surface Water Quality	Records of water analysis Number of water quality parameters complied with the national limits	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Waste Management and Pollution Prevention	Project area	Continuously	Waste generation	Visual inspection regarding proper collection and temporary storage of wastes and records kept regarding their coordinated recycle / disposal via licensed firms	Comply with the Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report and WBG General EHS Guidelines: Environmental (Waste Management)	Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report WBG General EHS Guidelines: Environmental (Waste Management)	Records from licensed firms for transferring of wastes Percentage recyclable material Hazardous waste generated Audit records filled by Environmental and a Social Expert that there is proper collection and temporary storage of wastes	To be covered within the project budget	Contractor
	Project area	Each waste delivery operation	Hazardous & non-hazardous waste amounts	Mobile Hazardous Waste Delivery System (MoTAT) records Assumptions for (non-hazardous)	Comply with the WBG General EHS Guidelines: Environmental (Waste Management), Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report by taking remedial actions if generations dramatically increase to minimize the adverse impact on natural resources	Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report	Recording the amount of waste sent at each waste disposal transfer Percentage recyclable material Waste optimization records	To be covered within the project budget	Contractor
Noise and vibration	Sensitive receptors	In case of any grievance	Noise & vibration levels	24-hour noise measurements/handheld device (via an authorized environmental laboratory)	Comply with the legal limits addressed in the Regulation on Environmental Noise Control (RENC)	RENC and WBG General EHS Guidelines: Environmental (Noise Management)	Noise measurement reports Noise emission level complied with the national and international limits	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
					WBG General EHS Guidelines – Noise Level Guidelines				
Management of chemicals and hazardous materials	Below and around the storage or usage locations for the materials. Near the vehicles and around the vehicles	Daily	Fuel oil, maintenance oil, antifreeze, dyes etc.	Visual inspections	Comply with the Environmental WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety (Regulation on Safety Data Sheets on Hazardous Materials and Mixtures) by providing appropriate storage, transportation and disposal	WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety (Regulation on Safety Data Sheets on Hazardous Materials and Mixtures)	Audit records filled by Environmental and a Social Expert that there is no contamination on environment Number of spills that have occurred	To be covered within the project budget	Contractor
Spills/Leakages	Project Area	In the event of incident	Environmental incidents	Incident logs	Comply with the WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety by preventing further incidents	WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety	Number of incidents	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Enforcement Actions by Regulatory Authorities	Project area	In the event of environmental prosecution - regulatory non compliance	Environmental prosecutions - regulatory non-compliances	Enforcement records (audit reports, etc.)	Comply with the Environmental Law and regulations	Not Applicable (NA)	Number of noncompliance	Akçakoca Municipality, Contractor	Akçakoca Municipality, Contractor
Socio-Economic Environment									
Cultural heritage	Project area	Continuously	Finding historical artifacts and other materials that have historical values	To be monitored during the activities, visually, records kept during the construction period	Comply with Law No. 2863 the by protecting archaeological and cultural heritage Comply with Chance Find Procedure	Law No. 2863 on the Protection of Cultural and Natural Assets	Protection of any material having a historical value which is found Information to General Directorate of Cultural Assets and Museums	To be covered within the project budget	Contractor
Traffic and Transportation	All drivers	Records maintained and up to date	Driver and vehicle competency	Checking employment (driver licenses) and vehicle maintenance records	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Audit records filled by Environmental and a Social Expert Safe traffic and transportation conditions Number of fines from authorities Number of complaints lodged by community	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Community Health & Safety and Security	Project area and its vicinity	In the event of a grievance/suggestion	External grievances	GRM (see Section 8.2.)	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071, OHS Law and regulations and WBG EHS Guidelines: Community Health and Safety by conducting effective communication with nearby communities and other stakeholders with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 OHS Law and regulations and WBG EHS Guidelines: Community Health and Safety	Number and nature of grievances and percentage of closed grievances Number of accidents Number of near-miss reporting	To be covered within the project budget	Akçakoca Municipality
	A location where an incident, accident or near miss occurs due to project activities	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident accident and near miss logs, accident types and if necessary Lost Time Injury Rates (LTIR)	To prevent further incidents, accidents and near misses	NA	Number of incident and near miss	No cost	Contractor, Akçakoca Municipality
Labor and Working Conditions									
OHS	Project area	In the event of a prosecution / regulatory non-compliance	Health and Safety prosecutions - non regulatory compliance	Prosecutions, audit reports, etc.	Comply with the OHS Law and regulations	OHS Law and regulations WBG EHS Guidelines: Occupational Health and Safety WBG EHS Guidelines: Community Health and Safety	Number of prosecution / regulatory non-compliance Safety/incident rate Number of safety meetings/communications	To be covered within the project budget	Contractor, Akçakoca Municipality



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
							Number of accidents per supplier Safety training completion rate Number of Near-miss reporting Lost time injury frequency rate (LTIFR) Safety inspections (number of inspections completed, passed, and failed)		
	Project area and places where workers exist related to work	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident accident and near miss logs, accident types and if necessary LTIR	Comply with the OHS Law and regulations, WBG EHS Guidelines: Occupational Health and Safety and WBG EHS Guidelines: Community Health and Safety by preventing further incidents	OHS Law and regulations WBG EHS Guidelines: Occupational Health and Safety WBG EHS Guidelines: Community Health and Safety	Number of accidents and near miss Number of noncompliances	To be covered within the project budget	Contractor, Akçakoca Municipality
	Project area	Daily	Site OHS implementations (safe conditions, risk analysis and procedures, EPRP, trainings, etc.)	Site observation and check records i.e. periodic health screening records of personnel, risk assessments, PPE delivery forms, training records	Comply with the WBG EHS Guidelines: Occupational Health and Safety, WBG EHS Guidelines: Community Health and Safety and OHS Law and regulations by taking corrective actions to prevent incidents	WBG EHS Guidelines: Occupational Health and Safety WBG EHS Guidelines: Community Health and Safety OHS Law and regulations	Number and nature and percentage of closed corrective actions	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
	Project area	In the event of a grievance/suggestion	Internal grievances	GRM (see Section 8.2)	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number of grievances and Percentage of Closed Grievances	To be covered within the project budget	Contractor
Working Conditions and Worker Management	Project area	In the event of a grievance/suggestion	Internal grievances	GRM (see Section 8.2)	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Contractor
Labor and Working Conditions (Labor management)	Project Area	Before the commencement of works	Identification of labor management practices	Preparation of Human Resources Management Plan and Procedures, training of employees and workers on the Procedure.	Comply with Labor Law and regulations	Labor Law and regulations	Employment document of Occupational Safety Experts Working hours per week	To be covered within the project budget	Contractor



CONSTRUCTION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
							Labor turnover Number of complaints from workers		



7.2 Monitoring Plan for the Operation Phase

The monitoring plan for the operation phase is presented in Table 7-3 below.

Table 7-3. Monitoring Plan for the Operation Phase

OPERATION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
Physical Environment									
Waste Management and Pollution Prevention	Solar Power Plant (SPP)	Continuously	Waste generation	Proper temporary storage of wastes and their coordinated recycle / disposal via licensed firms	Comply with Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report and World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines by preserving the environment, Occupational Health and Safety (OHS) and protect community health	Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report WBG General EHS Guidelines	Records from licensed firms for transferring of wastes Audit records filled by Environmental and Social Expert that there is proper collection and temporary storage of wastes	To be covered as part of the Project Budget.	Akçakoca Municipality
	SPP	Each waste delivery operation	Waste amount Waste Disposal Agreements/ Protocols	MEUCC MoTAT records Assumptions (for non-hazardous waste)	Comply with General EHS Guidelines: Environmental (Waste Management) Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report by taking remedial actions if generations dramatically increase in order to minimize the adverse impact on natural resources	General EHS Guidelines: Environmental (Waste Management) Waste Management Regulation and relevant regulations on waste defined in Section 2.1 of this report	Percentage recyclable material	To be covered as part of the Project Budget.	Akçakoca Municipality



OPERATION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
	SPP	Annually	Waste	MEUCC waste declaration system	Comply with “Waste Management Regulation” by protecting environment, OHS and community health and delivering waste to the licensed recycle/disposal companies	Waste Management Regulation	Submitted declaration form	To be covered as part of the Project Budget.	Akçakoca Municipality
Management of chemicals and hazardous materials	SPP	On occasion	Storage and handling operations of chemicals/hazardous materials	Site inspections (i.e. storage conditions, handling operations) and document control (i.e. Safety Data Sheets (SDSs), training records)	Comply with the WBG EHS Guidelines: Environment – Hazardous Materials Management, WBG EHS Guidelines: Construction and Decommissioning, Regulations defined in Section 2.1, under the topic of Environment, health and safety (Regulation on Safety Data Sheets on Hazardous Materials and Mixtures) by providing appropriate storage, transportation and disposal	WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety (Regulation on Safety Data Sheets on Hazardous Materials and Mixtures)	Audit records filled by Environmental and a Social Expert that there is no contamination on environment	To be covered as part of the Project Budget.	Akçakoca Municipality
Spills/Leakages	SPP	In the event of incident	Environmental incidents	Incident logs	Comply with the WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the topic of Environment, health and safety by preventing further incidents	WBG EHS Guidelines: Environment – Hazardous Materials Management WBG EHS Guidelines: Construction and Decommissioning Regulations defined in Section 2.1, under the	Zero incident	To be covered within the project budget	Akçakoca Municipality



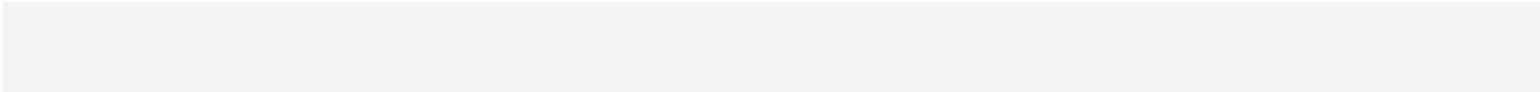
OPERATION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
						topic of Environment, health and safety			
Enforcement Actions by Regulatory Authorities	SPP	In the event of environmental prosecution - regulatory non compliance	Environmental prosecutions - regulatory non-compliances	Enforcement records (audit reports, etc.)	Comply with the Environmental Law and regulations	Not Applicable (NA)	Zero prosecution	Akçakoca Municipality	Akçakoca Municipality
Socio-Economic Environment									
Traffic and transportation	A location that is subject to the relevant grievance	In the event of a grievance	Transportation safety	Visual observations	Comply with the Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety by ensuring traffic safety	Highway Traffic Law (No. 2918) and WBG General EHS Guidelines: Community Health and Safety	Audit records filled by Environmental and a Social Expert that there are necessary signs for safe traffic and transportation	To be covered as part of the Project Budget.	Akçakoca Municipality
	Access roads to the covered market	Periodically (once a month is suggested) and in the event of complaints	Pedestrians and traffic safety	On-site inspection	Comply with the Highway Traffic Law	Highway Traffic Law	Audit records filled by Environmental and a Social Expert that there are necessary signs for safe pedestrian and access roads to the covered market	To be covered as part of the Project Budget.	Akçakoca Municipality
Community health and safety	Location where incident occurs due to project activities	In the event of incident (accidents and near misses)	Incidents, accidents and near misses	Incident, accident and near miss logs, accident types and if necessary LTIR.	To prevent further incidents, accidents and near misses	N/A	Zero incident	To be covered as part of the Project Budget.	Akçakoca Municipality
	SPP and its vicinity	In the event of a grievance / suggestion	External grievances	GRM (see Section 8.2.)	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the	Number and nature of grievances and percentage of closed grievances	To be covered as part of the Project Budget.	Akçakoca Municipality



OPERATION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
					Law on the Right to Information; and Use of the Right to Petition Law. 3071, OHS Law and regulations and WBG EHS Guidelines: Community Health and Safety by conducting effective communication with nearby communities and other stakeholders with addressing their concerns	Law on the Right to Information; and Use of the Right to Petition Law. 3071 OHS Law and regulations WBG EHS Guidelines: Community Health and Safety			
Labor and Working Conditions									
OHS	Project area	In the event of a prosecution / regulatory non-compliance	Health and Safety prosecutions – non-regulatory compliance	Prosecutions, audit reports, etc.	Comply with the OHS Law and regulations	OHS Law and regulations WBG EHS Guidelines: Occupational Health and Safety WBG EHS Guidelines: Community Health and Safety	Zero prosecution / regulatory non-compliance	To be covered within the project budget	Akçakoca Municipality
	Project area and places where workers exist related to work	In the event of an incident (accidents and near misses)	Incidents, accidents and near misses	Incident accident and near-miss logs, accident types and if necessary LTIR	Comply with the WBG EHS Guidelines: Occupational Health and Safety, WBG EHS Guidelines: Community Health and Safety and OHS Law and regulations by preventing further incidents	WBG EHS Guidelines: Occupational Health and Safety WBG EHS Guidelines: Community Health and Safety OHS Law and regulations	Zero incident	To be covered within the project budget	Akçakoca Municipality



OPERATION PHASE									
Issue	Monitoring Location	Timing / Frequency of Monitoring	Parameters Monitored	Monitoring Method	Target/ threshold values	Legal Requirements for monitoring	Key Performance Indicators	Cost	Responsible Party
	Project area	Daily	Site observations	Site observation and check records, i.e., periodic health screening records of personnel, risk assessments, PPE delivery forms, training records, etc.	Comply with the OHS Law and regulations, WBG General EHS Guidelines: OHS and WBG EHS Guidelines: Community Health and Safety by taking corrective actions to prevent incidents	OHS Law and regulations WBG General EHS Guidelines: OHS WBG EHS Guidelines: Community Health and Safety	Number and nature and percentage of closed corrective actions	To be covered within the project budget	Akçakoca Municipality
	Project area	In the event of a grievance/suggestion	Internal grievances	GRM (see Section 8.2)	Comply with the Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Akçakoca Municipality
Working Conditions and Worker Management	Project area	In the event of a grievance/suggestion	Internal grievances	GRM (see Section 8.2)	Comply with Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071 by conducting effective communication with employees with addressing their concerns	Right to Information Law. 4982; Regulation on the Principles and Procedures for The Enforcement of the Law on the Right to Information; and Use of the Right to Petition Law. 3071	Number and nature of grievances and percentage of closed grievances	To be covered within the project budget	Akçakoca Municipality



8 Institutional Arrangements

The responsible parties of the project, which put forward the project, are the Project Management Unit (PMU) of ILBANK acting as a financial intermediary as Borrower, WB, and EU providing technical and financial support as Lenders, Akçakoca Municipality, which is the Project Owner, in other words, the Sub-borrower of the project, Supervision Consultant to assist Akçakoca Municipality and the Contractor to be awarded for the project activities.

Akçakoca Municipality (Main Beneficiary Institution/Sub-borrower/Project Owner) and its General Responsibilities

The general responsibilities of Akçakoca Municipality are as follows:


- Provide health and social aid, including public hygiene,
- Enable public works covering the construction of urban roads, bridges, and similar infrastructure defined in the development plan, and land expropriations for the construction work,
- Provide culture and training activities,
- Maintain welfare of people including public health and sanitation installation practices as well as agriculture and economy,

Main duties of Akçakoca Municipality Technical Works:

- Responsible for construction and operation of the required infrastructure and upper structure in principle.
- Responsible for getting required permits, including pre-construction, during construction, and post-construction permits.
- Responsible for the construction, operation, and maintenance of buildings, roads, and urban wastewater infrastructure within their service areas.

In addition to the general responsibilities mentioned above, Akçakoca Municipality is responsible for managing the E&S risk and impacts originating from the project during the construction and operation phases. Akçakoca Municipality will ensure adequate resources are distributed on an ongoing basis to meet the requirements of ESMP and that the personnel responsible for accomplishing tasks and needs of the system are capable through training and experience. Akçakoca Municipality does not have the capacity to ensure ESMP implementation. Therefore, they will work with a supervision consultant during the phases of the Project.

During the tender stage for the construction phase, which will be carried out according to the Public Procurement Authority Legislation and will follow the legal requirements of the WB, Akçakoca Municipality will include the ESMP in the tendering documents and ensure



that the Contractor is aware of and complies with the E&S commitments made. Reflecting any revisions made by the Contractor on the relevant project documents, informing ILBANK about the process, and conducting the necessary consultation process about implemented and approved changes are among the duties of Akçakoca Municipality.

The Municipality is also responsible for ensuring the organization of the public consultation meeting to receive the opinions of the possible affected communities, together with the Supervision Consultant. A GRM will be structured and applied.

The other roles and responsibilities of Akçakoca Municipality are as follows:

- Disclose the ESMP and SEP documents on the Municipality website and at neighborhood headman's offices before the commencement of construction activities;
- Provide technical and data support during the supervision of Contractors and the preparation of technical and financial feasibility reports regarding projects;
- Supervise works conducted by consultants during the project activities in line with the ESMP.
- If ILBANK identifies any problem in the implementation of ESMP, agree on the measures that must be taken for solving the subject issues;
- Check both the technical and administrative progress of contract packages and the implementation of the points provided in ESMP and SEP on site together with Environmental, Social and OHS Experts (at least one E&S Expert and one OHS Expert);
- Establish, implement, and monitor GRM for ESMP in coordination with ILBANK;
 - Provide appropriate procedures to effectively solve the problems of the affected people on time and without causing any unjust suffering,
 - Take special measures to provide equal access for vulnerable/ disadvantaged individual/groups (e.g., senior citizens, disabled, etc.) to grievance resolving mechanisms,
 - Exert all necessary efforts to announce the project's GRM for affected people and settlement(s) and other interested stakeholders through all types of disclosure and consultation meetings throughout the project duration.
- Review of the Environmental and Social Monitoring Reports (ESMRs) to be submitted by contractors monthly, introduce them to ILBANK quarterly after being reviewed, in addition to on-site inspections.




ILBANK (Borrower)

ILBANK is the related institution of MEUCC. The Bank has two core functions, namely, (i) support infrastructure development at the local level through technical assistance, grants, and loans, (ii) transfer central tax revenues to local authorities.

Municipalities are the stakeholders of ILBANK. ILBANK plans to build and finance water supply, sewage networks, water and wastewater treatment plants, solid waste management systems, geothermal applications, and building constructions needed by municipalities. ILBANK will ensure the execution of the following specifically for this project:

- Auditing the Project Owner's performance regarding compliance with the provisions set out in the ESMP during the project activities;
- Guide public consultation and announcement requirements, as well as Akçakoca Municipality's project documents in compliance with WB requirements,
- Guide Akçakoca Municipality officials about WB OPs (documents and procedures) on environmental assessment,
- Reviewing and re-submission of the relevant documents for the approval of WB after the necessary revisions are made, if any of the approved project documents require modification, and follow up consultation and publication of the approved documents by Akçakoca Municipality on time,
- Monitoring E&S issues included in the mitigation plan through the experts assigned by ILBANK. Potential negative environmental and social impacts/risks are planned to be prevented or mitigated during the project activities. E&S Monitoring System will include but not limited the following:
 - General Environment
 - Air Emissions
 - Noise
 - Waste
 - Grievance
 - Health and Safety (occupational & community)
- Regularly supervise during the project activities to ensure proper implementation of ESMP. If any problem is identified in the implementation of ESMP, inform Akçakoca Municipality accordingly and agree on the measures that must be taken to solve the subject issues,
- Review quarterly ESMRs prepared by Akçakoca Municipality and submission of ESMRs to WB once every six months after reviewing,
- Preparation and submission of Project Progress Reports to WB once every six (6) months,

- 
- Review documents related to the E&S assessment of the project, provide comments to consultants, and giving official approval to these documents and procedures by the requirements of the WB safeguards,
 - Document the performance, recommendations, and additional steps to be taken as part of the overall project inspection to be monitored and inspected by Akçakoca Municipality to implement ESMP requirements,
 - Performing an overall quality assurance function that the EA documents prepared meet WB requirements,
 - Understand the positions and views of the relevant groups and local E&S experts on the E&S aspects of the project actions and, if necessary, meet with them during site visits,
 - Facilitate coordination and communication with the WB's monitoring missions on project implementation's E&S safety measures.

World Bank

WB will approve the use of the loan obtained from the Bank as part of the relevant work and compliance of the Tenders and Contracts with the WB tender, contract documents, and procedures. The transactions to be made will be checked by the Bank in specific periods. Moreover, The WB project team will visit project sites to conduct its own monitoring at certain intervals or when necessary. To bring any other problems to WB's attention, they can also present reports whenever necessary at shorter intervals.


E&S Consultant

ACE, who prepared the ESMP and the SEP for the Project, is the E&S Consultant and will provide necessary information to the Project Owner and take part in organizing the stakeholder consultation (ESMP introduction) meeting to be held for the public and Non-Governmental Organizations (NGOs) and finalizing the ESMP and this SEP as per the concerns/opinions of the stakeholders of the Project..

Supervision Consultant

The roles and responsibilities of the Supervision Consultant, to be selected by tender process to be opened by Akçakoca Municipality and approved by ILBANK, are as follows;

- Guide public consultation and announcement requirements, as well as the project documents of Akçakoca Municipality in compliance with WB requirements;
- If the consultation process coincides with the COVID-19 pandemic period, monitoring and auditing the consultation process to ensure that it is managed with additional measures in line with the government's restrictions valid for the relevant period. According to the "Interim Advice for IFC Clients on Safe Stakeholder



Engagement in The Context of COVID-19"² published by the IFC on May 15, 2020. In this respect, stakeholder engagement activities will be carried out through safe and effective channels, considering the relevant national and local regulations as well as the health-related recommendations and guidelines of national and international health authorities due to the COVID-19 outbreak;

- Guide Akçakoca Municipality officials about WB operational policies (documents and procedures) on environmental assessment, physical cultural resources, land acquisition and involuntary resettlement, natural habitats, forests, and international waterways;
- Monitor GRM and review the complaints to Akçakoca Municipality,
- Inspect and monitor the contractor's activities on site on a daily basis. Supervision Consultant will have the authority to ensure all E&S (including OHS) measures are duly taken by the contractor on site and may stop the construction works and/or issue fine to the contractor, etc. in case of non-compliances,
- Prepare quarterly ESMRs based on site observations, including non-compliances and relevant corrective actions taken and submit these reports to Akçakoca Municipality.


To fulfill the roles as mentioned above and responsibilities, the Supervision Consultant will appoint the personnel given below at the construction site full-time during the construction phase:

The Contract Manager will be responsible for inspecting the contractor to ensure that the recommendations and requirements given in the Project disclosure package (ESMP and SEP) are fulfilled. The Contract Manager will be responsible for continuously supervising and monitoring processes and actions undertaken by the Contractor and identifying the measures to deal with any areas of non-conformity. This includes periodic audits, inspections and/or on-site checks of project areas or worksites and/or records and reports compiled by the Contractor.

The Environmental and Social Expert will be responsible for supervising the implementation of all environmental and social mitigation measures provided in the Project disclosure package and reporting to the Contract Manager regularly. Besides, the Expert will be responsible for supervising the implementation of ESMP and SEP. The expert is expected to be a graduate of a university or similar institution in relevant disciplines (a master's degree would be an asset) and fluent in English and Turkish (both written and spoken).

The Occupational Health and Safety Expert will be responsible for supervising the OHS issues at the site and will have the National General Certificate of Occupational Health and

² https://www.ifc.org/wps/wcm/connect/30258731-0e7d-4cb2-863c-a6fb4c6d0d95/Tip+Sheet_Interim+Advice_StakeholderEngagement_COVID19_May2020.pdf?MOD=AJPERES&CVID=n9s.b9a



Safety (OHS) or equivalent. Graduation from a university or a similar institution in the relevant discipline would be an asset.

Contractor

The roles and responsibilities of the Contractor are as follows:

- Implement and comply with all the conditions and rules mentioned in the ESMP document, which is a part of the contract document on-site and at the technical office and revise it with Akçakoca Municipality if required;
- Provide necessary training to the staff, who will work during the construction phase;
- Manage workers' GRM and the public GRM and regularly report the complaints to Akçakoca Municipality;
- Regularly monitor the project activities and drafting monthly ESMRs based on-site observations, including non-compliances and submitting those reports to Akçakoca Municipality every month;
- Ensure compliance with project standards and obtain relevant permits and licenses;
- Notify Akçakoca Municipality immediately of any significant environmental (including OHS) or social events (e.g., fatalities, environmental, social labor or loss of time incidents, environmental spills, etc.), and Akçakoca Municipality will inform ILBANK and WB about the incident in three (3) business days. A report on the root causes of the incident and the corrective actions to be taken will be submitted to ILBANK and WB within 30 business days;
- Develop and implement Human Resource Management Procedure including working conditions, fair treatment, non-discrimination (especially gender), equal opportunity, vulnerable/disadvantaged workers, sexual exploitation and abuse and sexual harassment (SEA/SH), gender-based violence (GBV), prevention of child labor and forced labor issues under the project's Labour and Employment Policy for the construction phase;
- Ensure other agreements regarding the implementation of the requirements of ESMP and SEP and other E&S protection measures are signed;
- Ensure healthy and safe working conditions for all employees.

To fulfill the roles as mentioned above and responsibilities, the Contractor at least will appoint the personnel given below:

- A full-time Environmental and a Social Expert will be responsible for ensuring and supervising the implementation of all E&S mitigation measures provided in the Project disclosure package and reporting to the Contractor management regularly. Besides, the Experts will be responsible for supervising the implementation of ESMP and SEP. The expert is expected to be a graduate of a university or similar institution

in relevant disciplines (a master's degree would be an asset) and fluent in English and Turkish (both written and spoken).

- A full-time Occupational Health and Safety Expert will be responsible for supervising the OHS issues at the site and be certified for recognized international safety competency, such as the National General Certificate of Occupational Health and Safety or equivalent. Graduation from a university or a similar institution in the relevant discipline would be an asset.

Table 8-1 summarizes the roles and responsibilities of the Project parties.

Table 8-1. Summary of the Roles and Responsibilities in the Project

Project Party	Supervision Consultant	CONTRACTOR	Akçakoca Municipality	ILBANK
Financial Roles	-	-	Beneficiary	Financial Instrument
Application Process	Assisting Contractor and Akçakoca Municipality	Construction of request-based applications	Provision of request-based applications	Review and analysis of the applications to be submitted to WB
Preparation Process	Assisting Contractor and Akçakoca Municipality in the implementation of the laws, regulations, and other related policies brought by WB through ILBANK and required to be complied with	Implementation of the laws, regulations, and other related policies brought by WB through ILBANK and Akçakoca Municipality and required to be complied with	Implementation of the laws, regulations, and other related policies brought by WB through ILBANK and required to be complied with	Establish coordination among the selected municipalities to ensure compliance with all the rules and regulations throughout the project Forming an internal working structure for the investment options
Number of Personnel	Assigning a contract manager, an environmental and social expert and an occupational health and safety expert	Assigning an environmental and social expert and an occupational health and safety expert and also approximately 50 employees during the construction phase	Assigning a social expert and an environmental expert	Determination of the team structure
Roles in the Project	Guidance public participation and announcement requirements, inspection and monitoring of the contractor's activities, reviewing GRMs, preparation of ESMRs	Construction of the Project, Preparing ESMRs and establishing GRM	Preparing ESMP, consultation, and publication of the document, establishing GRM, and announcing it to the stakeholder	Main responsible for the monitoring of ESMP and the GRM
Reporting	Supervise and monitor all the processes to ensure that all the E&S operational policies of WB are properly implemented	Carry out the construction phase in accordance with the tender conditions determined by SASKİ	Put all the project construction works and consultancy services on the tender as part of the previously determined rules	Supervise and monitor all the processes to ensure that all the E&S operational policies of WB are properly implemented



Submission periods for ESMRs, Project Progress Reports and Grievance Register according to each project party is provided in Figure 8-1, while the organigram presenting the roles and responsibilities of the project parties regarding ESMP implementation, monitoring and reporting is given in Figure 8-2.

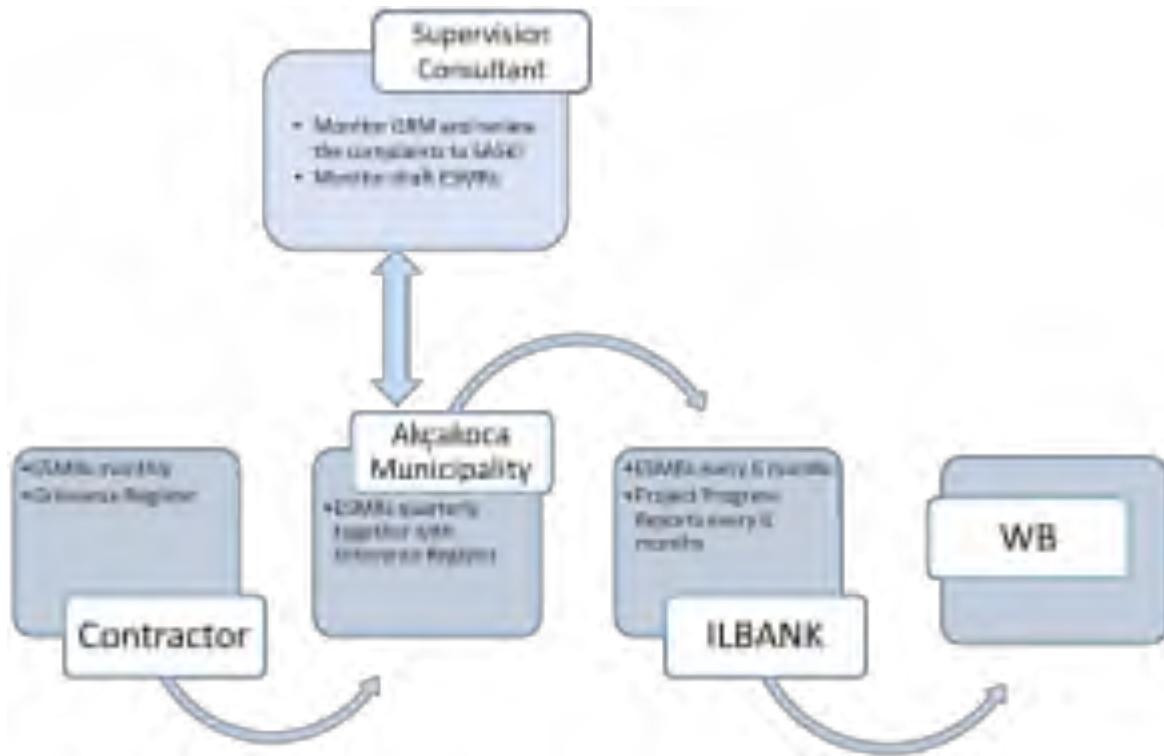


Figure 8-1 . Submission Periods for ESMR, Project Progress Report and Grievance Register during ESMP Implementation

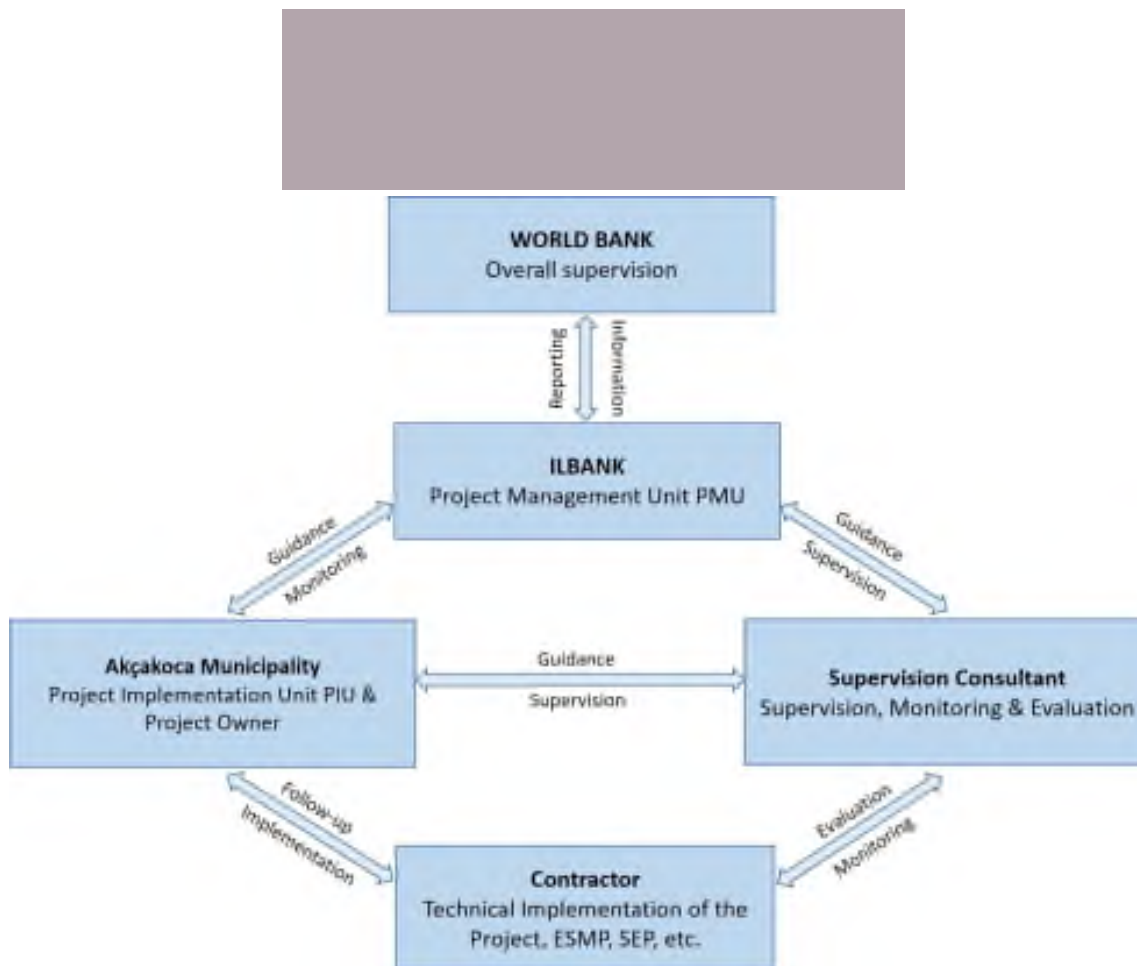



Figure 8-2. Organigram presenting Roles and Responsibilities of Project Parties for ESMP Implementation, Monitoring and Reporting

8.1 Training

The Sub-borrower will implement a training and awareness program covering ESMP expectations and commitments. ACE will organize, together with the Sub-borrower, a workshop for this training by the scope of work in its current contract. As a minimum requirement, this program will be implemented as training for employees and contractors responsible for the implementation of ESMP. The Sub-borrower will provide training to employees and subcontractors before the construction phase. The training will last at least two (2) days and be organized twice a year. Depending on the level of responsibility for implementing ESMP, further training programs may need to be implemented.

Necessary training will be given to the workers before the recruitment process. Compliance with the code of conduct rules, including GBV, SEA/SH, which are included in the training to be provided, will be in the contract articles of the personnel. The contract will clearly state the sanctions for non-compliance with the code of conduct. A Code of Conduct will be provided to each worker at the recruitment phase and signed by the worker as part of their work contract.

Measurement and evaluation should be carried out at the end of the training given to the personnel. This is intended to enhance the personnel's competency. According to the review



results, the training program can be modified, trainers can be replaced or training can be repeated, if needed, upon determining whether the training is effective.

The training program/modules will address a range of issues, including but not limited to:


- Purpose and content of ESMP regarding the Project activities,
- Requirements in all management plans and monitoring activities to be performed within the scope of this plan,
- Understanding of the sensitive E&S receptors within the project area and its vicinity, and
- Awareness-raising about the potential risk and impacts of the project activities,
- GRM developed within the scope of the project for the public,
- GRM developed within the scope of the project for the project personnel,
- Community health and safety risks and measures,
- OHS, first aid, emergency preparedness and response,
- COVID-19 related measures and protection measures,
- Code of conduct and clothing,
- Communication with the local community,
- Code of conduct training, including GBV, SEA/SH,
- Traffic and road safety principles, and
- Training aimed at the sorting, storage, and environmental planning of waste.

The Sub-borrower will ensure that all personnel responsible for implementing this ESMP are competent in education, training, and experience. All personnel will be provided with E&S training appropriate to their scope of activity and level of responsibility.

8.2 Grievance Redress Mechanism (GRM)

The purpose of the GRM is foremost to give access to a problem-solving procedure to project affected groups, including affected communities and project workers. Grievances can indicate growing stakeholder concerns and escalate if not identified and resolved. Identifying and responding to grievances supports the development of positive relationships between Project workers, local communities, and other stakeholders.

The structured GRM will ensure that grievances associated with the Project are addressed through a transparent and impartial process. From the early stages of the project lifecycle, the grievance procedure will continue to be disclosed to the public through individual or group meetings, printed materials, notice boards. Employees will be provided training on internal GRM.



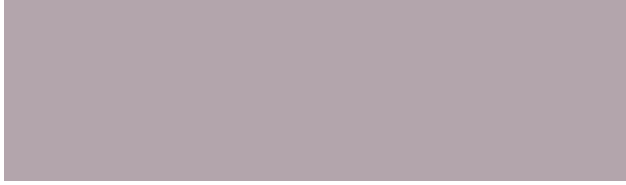
All municipalities have adopted a 'White Desk' system to have feedback from citizens. While the White Desk system is not regarded as a GRM by the WB, it is recognized by Akçakoca Municipality as a general grievance system adopted by municipalities within their organizations. Currently, the Sub-borrower handles public grievances and views through the White Desk system managed by Akçakoca Municipality. This municipal unit is established to receive grievances and requests from local citizens and intended to produce possible solutions within the municipality for reported concerns.

For this reason, the White Desk system will be maintained as the primary GRM for this project.

During phone interview on 27th of December 2022 with the headman of Osmaniye neighborhood where the Project will be implemented, it was learned that the citizens know the 'White Desk' system and use this communication channel. In addition, he remarked that they would prefer it as the communication channel for this Project. However, a central system should be established by the Municipality that is integrated to the White Desk system to effectively monitor the grievances regarding the Project. The GRM under this Project will be able to be used by the Akçakoca Municipality, subcontractors, workers/ employees.

In addition to the White Desk channel, an officer from the municipality will be appointed to transfer to the central system all grievances and suggestions that are communicated to the Akçakoca Municipality and personally left in grievance boxes in Akçakoca Municipality building. The grievances and suggestions are conveyed by stakeholders who want to communicate based on the project documentation and/or the personnel during the project activities. All complaints and suggestions are reported to the subcontractor and recorded as a petition. The said officer will be responsible for recording and following up on each grievance and/or suggestion until resolved. The White Desk officers and the officer appointed by the Municipality will constantly contact and ensure that grievances are recorded and followed up in a central system.

The Contractor will inform the direct and subcontracted employees about the GRM explaining the channels for internal communication and raising grievances. The workers will be informed of the mechanism and procedures at the time of hire in their local language (Turkish or if needed Arabic or other languages). As a best practice, options of anonymous grievance redress mechanisms will be established to encourage concerns to be raised freely. A detailed procedure for evaluation of the use of suggestion and grievance boxes to inform employees and the Municipality will be developed. There will be a designated person within the Contractor management that will collect the grievances and submit them to the municipality. Internal grievances will be assessed by the Contractor management and remedial actions will be implemented. Remedial measures for the grievance mechanism for the public will be developed and submitted to the municipality for review and then implemented.



Complainants from the public/stakeholders will be able to communicate their grievances and views via the channels presented below:

- Akçakoca Municipality Website (<https://www.akcakoca.bel.tr/>): The municipality website enables citizens to communicate electronically with public relations specialists. Citizens can further communicate their requests in-person to resolve any issues quickly.
- Contact Details of Akçakoca Municipality GRM Officer to be assigned (i.e., Name-Last Name, E-mail, and Phone),
- Call Centre 153 (Alo 153): The White Desk system is reachable via call center (Alo 153), website, or personal application. Alo 153 call center aims to provide higher quality assistance and faster solutions to citizens with the help of the White Desk solution team. For each opinion/grievance, a tracking number will be assigned, which allows the status of the opinion/grievance to be followed up.
- Contact Number of Contractor Officer to be assigned,
- Akçakoca Municipality Address for Petition Service (Yalı Mah. İnönü Cad. No: 45 Akçakoca / DÜZCE),
- Grievance Form and Grievance Close-Out Form (see samples for Annex 6 and Annex 7) provided for grievance and request boxes to be installed in the Municipal building,
- Grievance/notice boxes to be installed by the Contractor at the project site during the project activities.


Suppose stakeholders fail to reach a satisfactory solution through the channels provided above. In that case, they will be able to reach ILBANK's communication channels listed below, the Presidency Communication Center (CİMER), the Foreigners Communication Centre (YİMER), and the relevant legal institutions.

ILBANK's Communication Channels:

- ILBANK Website (<https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi>)
- ILBANK Contact number for Complaints, Wishes, Suggestions 0 312 508 7979
- ILBANK E-mail (bilgiuidb@ilbank.gov.tr)
- ILBANK Address for Petition Service (ILBANK International Relations Department, GRM Team - Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA)

CİMER:

- CİMER Website (www.cimer.gov.tr)
- CİMER Call Centre (150)

- 
- CİMER Phone Number: +90 312 525 55 55 - Fax Number: +90 0312 473 64 94
 - Mail addressed to the Republic of Türkiye, Directorate of Communications
 - Individual applications at the community relations desks at governorates, ministries, and district governorates

YİMER has been providing a centralized complaint system for foreigners:

- YİMER Website (www.yimer.gov.tr)
- YİMER Call Centre (157)
- YİMER Phone Number: +90 312 5157 11 22 - Fax Number: +90 0312 920 06 09
- Mail addressed to the Republic of Türkiye, Directorate of Communications
- Individual applications at the Republic of Türkiye General Directorate of Migration Management

Certain complaints warrant urgent action, and the regular GRM procedure may be inappropriate or too slow to prevent an issue from escalating. In the case of complaints alleging serious harm or risk of harm, and/or serious rights violations, the GRM's standard operating procedures will call for a fast-track response, whether by the GRM or by immediate referral to another office or organization and immediate notification to the complainant of that referral. A separate fast-tracked GRM, including guidance on the circumstances under which it should be employed, can help ensure that high-priority complaints are dealt with on time.

Applicants, whose complaints could not be resolved through existing GRM or whose complaints contain sensitive issues can always apply to the relevant legal institutions. Relevant Legal Institutions: Relevant Institutions can be summarized as, but are not limited to, follows.

- Civil Courts of First Instance,
- Administrative Court,
- Commercial Courts of First Instance,
- Labor Courts, and
- Ombudsman (<https://ebasvuru.ombudsman.gov.tr/>)

Relevant legal process will be monitored through GRM.

Suppose stakeholders fail to reach a solution for sensitive grievances (SEA/SH and GBV in the workplace or potential child abuse in project areas) by applicable means. In that case, they will be able to seek the help of ILBANK in line with ILBANK's sensitive grievances policies.

- ILBANK Website (<https://www.ilbank.gov.tr/form/bilgiedinmeuluslararasi>)

- ILBANK E-mail (etikuidb@ilbank.gov.tr)
- ILBANK Address for Petition Service (ILBANK International Relations Department, GRM Team - Emniyet Mahallesi Hipodrom Caddesi No:9/21 Yenimahalle/ANKARA)

During the project activities, the GRM described above will continue to be driven by stakeholders' views, making this procedure accessible to all affected stakeholders. Requests that require urgent remedy and/or support will be responded to and given support within the same day. All outstanding grievances/requests will be recorded within two business days, reviewed, assessed within ten business days, and concluded no later than 15 business days. Corrective actions will be taken to resolve the grievance.

The uptake, flow and processing of complaints are represented in the Figure 8-3.

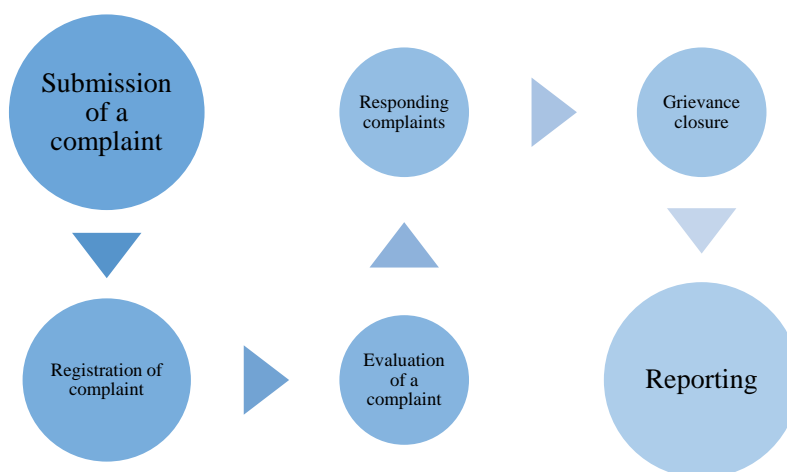


Figure 8-3. Uptake, Flow and Processing of Complaints

GRM flow charts explanation for public and project personnel are provided in Table 8-2 and Table 8-3, respectively.

Table 8-2. Grievance Redress Mechanism Flow Chart for Public

Grievance Redress Process	Requirement/Action	Responsible Officer/Team
Submission of a complaint	Receiving the grievance by any communication channel explained above. (At this point, if the grievance is a sensitive complaint involving child abuse, SEA/SH, immediate action will be taken within 48 hours after receiving the complaint.)	Akçakoca Municipality Supervision consultant
Registration of complaint	Registering/recording through making an entry in the grievance register table (see Annex 8 for a sample) filling of the Grievance Form (see Annex 6 for a sample). All the complaints will be registered to the Municipality record into a central database within two (2) days, and feedback will be given to the complainant.	Akçakoca Municipality Supervision consultant



Grievance Redress Process	Requirement/Action	Responsible Officer/Team
	If the complainant requests that this complaint be treated anonymously, this complaint will be recorded anonymously, and the request will be met.	
Evaluation of a complaint	Evaluate the complaints within 10 working days and determine whether the complaint meets the admissibility criteria. If the complaint is not valid, provide a relevant explanation to the complainant.	Akçakoca Municipality Supervision consultant
Responding complaints	Grievance will be assessed by the Municipality. The affected community representatives, such as from local NGOs and/or headmen, will be consulted depending on the type of grievance. If needed, the grievance will be examined on-site. Response/redress of grievance will be communicated to the petitioner via telephone or email, whichever is preferred. If it cannot be resolved, the complainant will have the right to apply to ILBANK or the Court of First Instance, depending on the grievance.	Akçakoca Municipality Supervision consultant
Grievance closure	Grievances are closed within 15 Business Days as of date of application unless an alternative agreement is made with the Complainant and filling of the Grievance Close Out Form (see Annex 7). Note that if complaints are not closed within 15 Business Days, the extenuating circumstances are documented and reported. It should be noted that the action is taken, and the result of this anonymously recorded grievance should be shared on the Akçakoca Municipality website, so that anonymous complainants are informed about their complaint and the results.	Akçakoca Municipality Supervision consultant
If a complaint cannot be resolved	GRM procedure is monitored by ILBANK. This is as follows: -Lodging of grievance will be confirmed. -Grievance will be assessed by the municipality and ILBANK will be informed. -Response/redress of grievance will be communicated to petitioner by the municipality. ILBANK will monitor the municipality to run the GRM smoothly. The response time in this level is 30 days. -If cannot be resolved, petitioner will be referred to Court of First Instance.	Akçakoca Municipality Supervision consultant
Reporting	Ensure that all process conducted in compliance with Grievance process by responsible department The grievances will be analyzed at regular intervals to analyze the frequency of different types of complaints, who most frequently lodge complaints, and how complaints have been resolved. Such analysis may for example, reflect that there are far more complaints in relation to specific contractors, or that certain works results in comparatively many complaints, etc. Report the results to management	Akçakoca Municipality Supervision consultant

Table 8-3. Grievance Redress Mechanism Flow Chart for Project Personnel

Grievance Redress Process	Requirement/Action	Responsible Officer/Team
Submission of a complaint	Receiving the grievance by any communication channel explained above. (At this point, if the grievance is a sensitive complaint involving child abuse, SEA/SH, Contractor Officer will be contacted immediately and immediate action will be taken within 48 hours after receiving the complaint.)	Contractor Supervision consultant



Grievance Redress Process	Requirement/Action	Responsible Officer/Team
Registration of complaint	<p>Registering/recording through making an entry in the grievance register table filling of the Grievance Form to be developed by the Contractor. All the complaints will be internally registered and subsequently registered to the Municipality record via the Contractor Officer within two (2) days, and feedback will be given to the complainant.</p> <p>If the complainant requests that this complaint be treated anonymously, this complaint will be recorded anonymously, and the request will be met.</p>	Contractor Supervision consultant
Evaluation of a complaint	<p>Evaluate the complaints within ten (10) working days and determine whether the complaint meets the admissibility criteria. If the complaint is not valid, provide a relevant explanation to the complainant.</p>	Contractor Supervision consultant
Responding to complaints	<p>Grievance will be assessed by the Contractor, Contractor Officer, workers' representative and as needed by Akçakoca Municipality. If needed, the grievance will be examined on-site.</p> <p>Response/redress of grievance will be communicated to the petitioner via telephone or email.</p> <p>If it cannot be resolved, the complainant will have the right to apply to ILBANK depending on the grievance.</p>	Contractor Supervision consultant
Grievance closure	<p>Grievances are closed within 15 Business Days as of date of application unless an alternative agreement is made with the Complainant. Note that if complaints are not closed within 15 business days, the extenuating circumstances are documented and reported to the Contractor Officer</p>	Contractor Supervision consultant
If a complaint cannot be resolved	<p>GRM procedure is monitored by ILBANK. This is as follows:</p> <ul style="list-style-type: none"> -Lodging of grievance will be confirmed. -Grievance will be assessed by the municipality and ILBANK will be informed. -Response / redress of grievance will be communicated to petitioner by the municipality. ILBANK will monitor the municipality to run the GRM smoothly. The response time in this level is 30 days. -If cannot be resolved, petitioner will be referred to Court of First Instance. 	Contractor Supervision consultant
Reporting	<p>Ensure that all process conducted in compliance with Grievance process by Contractor responsible department Contractor Officer</p> <p>The grievances will be analyzed at regular intervals to analyze the frequency of different types of complaints, who most frequently lodge complaints, and how complaints have been resolved. Such analysis may for example, reflect that there are far more complaints in relation to specific contractors, or that certain works results in comparatively many complaints, etc.</p> <p>Report the results to management</p>	Contractor Supervision consultant

The grievances are currently categorized by the White Desk system when the grievance is received. If urgent support is required, White Desk officers offer solutions by immediately contacting the relevant departments. The officer will adopt the same approach to be assigned by the Municipality.



In cases where a long-term program is required for a satisfactory resolution, this will be discussed in detail in the registration file for specific grievances. The complainant will be informed about the new schedule for resolving the grievance.

Both the officers managing the White Desk system and the officer appointed by the Municipality to record grievances in a central system will be trained and become knowledgeable about the guidelines prepared by the WB to prevent SEA/SH cases for the projects financed under construction works³. Grievances of GBV, SEA/SH can result in a culture of silence due to negative reactions from the community. To avoid this, the complainant will be assured confidentiality when raising grievances involving these issues about the project. In addition, the authorities handling the grievances should address such issues confidently and by an unbiased approach.

The Sub-borrower will submit reports on its E&S performances in the periods agreed with ILBANK, along with a summary of the grievances and how they are resolved. Besides, Grievance Register will be provided to ILBANK during quarterly monitoring studies. Further details will be given in the SEP.

³ <https://thedocs.worldbank.org/en/doc/741681582580194727-0290022020/original/ESFGoodPracticeNoteonGBVinMajorCivilWorksv2.pdf>



9 Stakeholder Engagement

A stakeholder is defined as any individual, organization, or group potentially affected by the Project or who has an interest in the Project and its impacts. The objective of stakeholder identification is to establish which stakeholders may be directly or indirectly affected – either positively or negatively - (“affected parties”) or have an interest in the Project (“other interested parties”).

A SEP will be prepared for this project to identify project stakeholders and establish engagement methods for the future of the Project. It is important that particular efforts are made to identify any disadvantaged and vulnerable stakeholders who may be differentially or disproportionately affected by the Project or who may have difficulty participating in the engagement and development processes. Stakeholder identification is also an ongoing process and will require regular review and update. Further details will be given in the SEP.

This will be under the responsibility of a person from the Public Relations Unit who will be assigned for the implementation of SEP by the Sub-borrower or under the responsibility of a specifically designated person with the qualifications required to perform the task.

The Sub-borrower has ultimate responsibility for the implementation of this SEP. During construction and operational phases, the Sub-borrower will keep the information below up-to-date and accessible by providing information on the development of and practices under the Project. The information will include:

- Key Project phases and schedules (e.g., obtaining permits, starting the project activities, construction schedule, etc.),
- Any disruption related to the project (e.g., Road closures, access, and infrastructure disruptions) as discussed in the ESMP and reflected in the SEP and GRM,
- Important consultations/meetings with potential consequences that may affect the community and local people (see Annex 9 for a sample consultation form), and
- EHS performance (e.g., Information about accidents, monitoring results).

The Consultation Form used during the stakeholder engagement process is provided as Appendix-7 of this plan.

9.1 Announcements during the Project Activities

The Sub-borrower will notify the headman's office in the AoI two (2) days before any possible temporary road closure during project activities. Similarly, the Sub-borrower will inform the affected local people of the future works in the Municipal building and/or on the notice platforms two (2) days in advance.

Likewise, businesses, schools and/or hospitals potentially affected by project activities will be notified of the works two (2) days in advance. Activities will be driven by the feedback received from stakeholders so that businesses and/or services are not disrupted.



9.2 Further Stakeholder Engagement Activities

For all Category A and B subprojects proposed for the WB financing, the Borrower consults project-affected groups and local NGOs about the project's environmental aspects and takes their views into account during the EA process. The borrower initiates such consultations as early as possible. For Category B subprojects, at least one consultation with affected groups and other relevant/affected stakeholders is anticipated after the draft ESMP is completed. This consultation will include, but is not necessarily limited to, the following topics anticipated:

- Objective of the Project,
- Social, environmental, and ecological impacts that are determined to occur upon the Project,
- Impacts and the mitigation or enhancement measures that are being implemented,
- Roles and responsibilities,
- Monitoring and management measures, and
- Information on the GRM for the Project.

Apart from that, the Sub-borrower will be responsible for engagement with stakeholders as an ongoing process throughout the life of the Project. Identifying and responding to grievances supports the development of positive relationships between projects, communities, and other stakeholders. Grievances can indicate growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved.

Internal and external stakeholders will share their opinions and grievances via a range of options such as the Sub-borrower's website, letters, and face-to-face meetings to implement the SEP.

The GRM will be advertised and announced to stakeholders in an easily accessible language and form, to know the process, know they have the right to submit a grievance and understand how the mechanism will work and how their grievance will be addressed. In most cases, a grievance or complaint will be submitted by a stakeholder or resident by phone, in writing, or by speaking with one of the company's grievances officers. Further information on the Sub-borrower's GRM is presented in Section 8.

9.3 Disclosure of Information and Stakeholder Engagement during the COVID-19 Process

The unprecedented nature of the COVID-19 Pandemic process implies that all elements of Project activities, including stakeholder engagement, may be affected. Given the compulsory restrictions and social distancing measures associated with COVID-19, alternative approaches to stakeholder engagement emerged in the short term.



In efforts to disseminate information, the Sub-borrower will try to communicate reliable and accurate information to all stakeholders by ensuring that the information is in a form and language that is easily understandable and culturally appropriate.

It is recommended to use the following tools to interact with stakeholders during the pandemic period if they are not limited to:

- Brochures
- E-mail
- Notice boards intended for the public
- Phone interviews and messaging
- Sub-borrower’s website

Additionally, changes in the operations of the Sub-borrower, which are caused by COVID-19 and which may have an impact on the public, will be reported accordingly. These include, but are not limited to:

- Changes in the project resulting from COVID-19
- Changes in the presentation of social development programs
- Changes in employment, procurement from local businesses, etc.
- Changes in timeframes to solve public grievances
- New or modified public awareness communication campaigns on COVID-19, which are coordinated with relevant authorities and based on the information from recognized sources such as the WHO, “Guidance to COVID-19 Outbreak Management and Working” published by Ministry of Health of Türkiye and “Interim Advice for IFC Clients on Safe Stakeholder Engagement in the Context of COVID-19” published by IFC.

Lastly, the Project will consider the new approaches shown in Table 9-1 to engage during COVID-19 effectively.

Table 9-1. Alternative Information Disclosure and Stakeholder Engagement Measures during the COVID-19 Restrictions

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Supporting Responsibility
Government / Authorities <ul style="list-style-type: none"> • Düzce PDEUCC 	<ul style="list-style-type: none"> • Updates on project activities and progress • Local procurement and employment data • Updates on social distancing restrictions and COVID-19 related measures 	When necessary	Teleconference Virtual meetings Written up-to-date information Project Owner's website GRM GRM	Sub-borrower

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Supporting Responsibility
Municipalities / Neighborhoods <ul style="list-style-type: none"> Düzce Municipality Akçakoca Municipality Osmaniye Neighborhood Headman People working in or using the covered market and residing in the nearby areas 	<ul style="list-style-type: none"> Required updates on project activities and progress Updates on social distancing restrictions and COVID-19 related measures 	When necessary	Teleconference Virtual meetings Written up-to-date information Project Owner's website GRM	Sub-borrower
Internal Stakeholders <ul style="list-style-type: none"> All employees 	<ul style="list-style-type: none"> Updates on the project progress and planning Changes in project operational procedures and emergency response plans Changes in occupational health and safety and labor conditions and (if any) guidance on access to subsidies Measures to be taken in case of COVID-19 symptoms Locations of centers specific to COVID-19 cases Updates on new labor regulations regarding COVID-19 measures 	When necessary	E-mail / SMS to be sent to all personnel Virtual meetings Teleconference Sub-borrower's websites Written up-to-date information	Sub-borrower, Contractor and Sub-contractor(s)

9.4 Consultation Meetings with the Municipality and Site Visits during Preparation of the ESMP

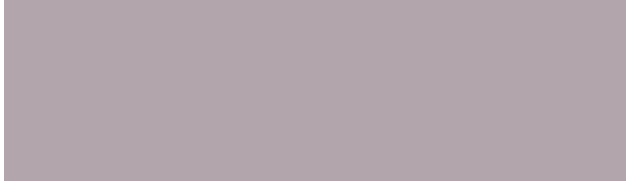
A face-to-face consultation meeting with Akçakoca Municipality was not conducted within this Project's scope. This ESMP has been prepared according to the information available in the draft PID prepared by Eptisa [1] and additional information provided by Akçakoca Municipality via e-mail and telephone conferences. Besides, the Project site has been visited by the Consultant on 17th of June 2022. In addition, phone interview was conducted on 27th of December 2022 with the headman of Osmaniye neighborhood where the Project will be implemented. The photographs of the Project area taken during the site visit are provided in the Annex 10 of this ESMP.

9.5 Preliminary Public/Stakeholder Consultation Activities

A stakeholder consultation meeting was conducted on 9th of January 2024 after the submission of the draft ESMP of the Project to ILBANK/WB and its approval. Minutes of meeting and other information related to the meeting are presented in Annex 12. Information given in Annex 12 is also included as an annex to the SEP.

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Bu Proje Avrupa Birliđi, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklađe finanse edilmektedir.

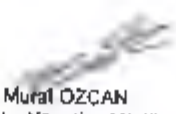
6. Üretim tesisi, can ve mal omniyetinin sağlanması için kısa devre arızası veya şebekenin enerjisi kılması durumunda bağlantı noktası ribariyle şebekeden izole hale getirilir ve şebekeye enerji verilmez. Şebekenin bir bölümünü içerecek şekilde adalanmaya musaade edilmez. Bu durumda bağlantılı noktası itibarıyla şebekeden izole hale gelen üretim tesisi, izole kalan tüketim tesisi bölümünü şebekeden bağımsız olarak besleyebilir.
7. Bağlantı anlaşmasına çağrı mektubu ve eklerinin ilgili kişiye tebliğ edildiđi tarih itibarıyla;
- a) doksan (90) gün içerisinde genel ve özel maddelerde belirtilen hususların dikkate alınarak üretim tesisi ve varsa iribat hattı projesinin Bakanlık veya Bakanlığın yetkili verdiği kurum veya tüzel kişilerin onayına sunulması, proje onayı için başvuruda bulunmayan gerçek veya tüzel kişilerin bağlantı başvurularını geçersiz sayılacaktır.
- b) yüzseksen (180) gün içerisinde onaylı üretim tesisi projesi ve varsa iribat hattı projesi ile birlikte bağlantı anlaşması yapmak üzere Şirketimize müracaat edilmesi gerekmektedir.
8. Bağlantı anlaşması için gerekli olan belgelerin zamanında edinilememesi durumunda yukarıda belirtilen süreler içerisinde yazılı olarak Şirketimize başvurulması halinde, yüzseksen (180) gün ilave süre verilebileceđi, ek sürenin sonuna kadar söz konusu bilgi ve belgelerin Şirketimize sunulmaması halinde, bağlantı anlaşması imzalam hakkının kaybedilecektir.

Özel Maddeler

9. Şebekeye verecek net enerji miktarı, Elektrik Piyasasında Lisanssız Elektrik Üretim Yönetmeliğinin "İhtiyaç fazlası enerjinin değerlendirilmesi" başlıklı 24. Maddenin 1. Fıkrası hükmüne göre değerlendirilecektir.
10. YG seviyesinden bağlanacak üretim tesisinin yönlendirildiđi TEİAŞ TM'de ilgili fidere TEİAŞ'ın otoproduktör fideri kriterlerine uygun olması gerekmektedir.
11. YG seviyesinden bağlanacak üretim tesisinin dağıtım sistemine bağlantı noktasında TEDAŞ'ın otoproduktör fideri kriterlerine uyulması gerekmektedir.
12. Üretim Tesislerinin Sakarya FIDAŞ SCADA Sistemine Dahil Edilmesi Teknik Şartnamesi'ne uygun olarak kendi SCADA/RTU altyapılarını kurarak Sakarya Elektrik Dağıtım A.Ş. (SEDAŞ) SCADA Sistemine bağlanması gerekmektedir.

Gereğini rica ederiz


Z. Nuri ŞENEL
Enerji Müsadeleleri ve CBS
Yönelicisi


Mural ÖZCAN
Şebeke Yönetimi Müdürü

EK1 :

1. Tek hat Şeması
2. YEPDİS Kayıt Belgesi
3. Üretim Tesislerinin SEDAŞ SCADA Sistemine Bağlanması Esasları

ANNEX-2. Connection Agreement





This project is co-funded by the European Union, the Republic of Turkey and the World Bank.
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir.

LİSANSIZ ELEKTRİK ÜRETİCİLERİ İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

LİSANSIZ ELEKTRİK ÜRETİCİLERİ İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

Üretici No: 20743192
Tarih: 28.04.2023

Sayı: 158102020000156

Bu Anlaşma; isim veya unvanı ile kanuni ikametgah adresi aşağıda belirtilen Üreticiye ait Elektrik Piyasasında Lisanssız Elektrik Üretimine İlgili Yönetmelik kapsamında kurulmuş üretim tesisinin 4628 sayılı Elektrik Piyasası Kanunu (Kanun) ve 5346 sayılı Yenilenebilir Enerji Kaynaklarının Elektrik Enerjisi Üretimi Amaçlı Kullanımına İlgili Kanun (YEK Kanunu) ile bu kanunlar uyarınca çıkarılmış ikincil mevzuat uyarınca dağıtım sistemine bağlanması için gerekli hüküm ve şartları içermektedir.

Taraflar	Dağıtım Şirketi		Üretici
		Sakarya Elektrik Dağıtım A.Ş.	
Kanuni Adresleri	Orhangazi Cad. Pk.160 Maltepe 54100 - Adapazarı /SAKARYA		Yalı Mah. İnönü Cad. No.45 Akçakoca/DÜZCE
Temsil Yetkili Kişiler	Habil ERGEN	Erol SANCAK	Melih BAYRAK
	Enerji Ölçüm ve Faturalandırma Müdürü	Enerji Şebekesi Yönetimi Direktörü	Melih BAYRAK Elektrik Güven Amiri
İmzalar			

Bu anlaşma, genel hükümleri içeren Birinci Bölümü ve özel hükümleri ve ekleri içeren İkinci Bölümü ile birlikte ayrılmaz bir bütündür.



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LİSANSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

BİRİNCİ BÖLÜM

MADDE 1 - TARAFLAR

(1) Bu anlaşma dağıtım şirketi ile Elektrik Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmelik (Yönetmelik) kapsamında elektrik üretim tesisi kuran gerçek veya tüzel kişiler (Üretici) arasında imzalanır. Bu anlaşmanın tarafları: **Sakarya Elektrik Dağıtım A.Ş.** ile **T.C. Akçakoca Belediyesi Başkanlığı(Üretici)** dir.

MADDE 2. ANLAŞMA KONUSU VE BAĞLANTI HÜKÜMLERİ:

(1) Bu anlaşma Elektrik Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmelik kapsamında üretim tesisi kuran kişilerin dağıtım sistemine bağlanmasına ilişkin hükümleri içerir.

(2) Bağlantı bilgileri Ek-1'de belirtilmiştir.

MADDE 3 - ANLAŞMANIN YORUMLANMASI

(1) Bu Anlaşma özellikle Elektrik Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmelik (Yönetmelik) ve Elektrik Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmeliğin Uygulanmasına İlişkin Tebliğ (Tebliğ) kapsamında yürürlükte bulunan ve değiştirilmemiş Yönetmelik ve Tebliğ'de hüküm bulunmayan hâlinde Kanun ve YEK Kanununda gösterilmiş ikincil mevzuat (ilgili mevzuat) uygun yorum ve uygulama yoluna girilir.

MADDE 4. ANLAŞMA GÜCÜ:

(1) Üretici; bu anlaşma, Elektrik Piyasasında İletim ve Dağıtım Sistemlerine Bağlantı ve Sistem Kullanım Hakkında Tebliğ hükümleri uyarınca revize edilmeden bağlantı ruhsatına anlaşma gücünün üzerinde elektrik enerjisi veremez.

(2) Üreticinin anlaşma gücünü ihlal etmesi durumunda Dağıtım Şirketi ihlal bildirimi için bildirimde bulunarak 15 (onbeş) günlük ihlali giderme süresi verir ve bu anlaşmanın 16 nci maddesi kapsamında ilgili yapıyı uygular. Üreticiye Dağıtım Şirketi tarafından kesilen faturalar, anlaşma gücüne ve bu gücün aşılıđına dair kayıt içermesi halinde bildirim yerine geçer, bu durumda ayrıca bildirim yapılması gerekmez. İhlal bildirim alındığında derhal sömü kaldırılır veya tebliğat tarihinden itibaren en geç öngörülen süre içinde sömü ihlalın en geç verilen süre içinde giderilmemesi/giderilememesi halinde Dağıtım Şirketi üreticinin sisteme elektrik enerjisi vermesini engelleyebilir. Bu halde daha tüketim tesisinin sistemden enerji alınması engellenemez. Elektrik enerjisine kesilmesi ve tekrar verilmesi durumunda ortaya çıkan maddi ve maliyetler, üretici tarafından Dağıtım Şirketine ödenir.

(3) Dağıtım Şirketi, üreticinin anlaşma gücü üzerinde elektrik enerjisi vermesini önlemek amacıyla otomatik enerji kesme sistemleri tesis edebilir. Bu sistemlerin teçhizi üreticiden istenemez.

(4) Üreticinin anlaşma gücünü ihlal etmesi durumunda, Dağıtım Şirketi ile üretici arasında bu anlaşmanın 16 nci maddesi hükümleri uyarınca işlem yapılır.

MADDE 5. MÜLKİYET SINIRLARI:

(1) Dağıtım Şirketi ile üretici arasındaki tesis ve/veya teçhizatın mülkiyet sınırları Yönetmelik ve ilgili mevzuat hükümlerine göre belirlenir ve Ek-2'de belirtildiđi şekildedir.

(2) Taraflar, Ek-2 de belirtilen mülkiyet sınırlarına göre kendi tesis ve teçhizatın bakım onarımı, işletilmesi ve korunması ile yetkili ve sorumludurlar.



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1.1 SANSSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

(3) Dağıtım Şirketi ve üretici tarafından işletme sınırlarında yer alan tesis ve/veya teçhizatın bakım/onarımını, işletilmesi ve korunması ile ilgili olarak üretici tesisleri ve/veya ilgili tarafta olduğunu belirleyen yetki çizelgesi ve dağıtım sistemi işletme tesisleri ve/veya iletim sistemi arasındaki işletme sınırlarında veya ortak sorumluluğunda bulunan yerlerde uygulanacak güvenlik yönetimi sistemine ilişkin hususlar, dağıtım sistemine bağlanmak için başvuruda bulunular için, bağlanmanın tesis edilmesinden 15 (on beş) gün önce Dağıtım Şirketi tarafından üretici ile müzakere edilmele suretiyle düzenlenir ve bu anlaşma sözleşme imar bir parçası olarak kabul edilir.

MADDE 6. KARŞILIKLI YÜKÜMLÜLÜKLER:

A. Dağıtım Sistemi Varlıklarının Tesisi Edilmesi ve Müşteri Mülkiyetindeki Tesisten Faydalanma:

(1) Dağıtım Sistemi Varlıklarının Üretici Tarafından Tesisi Edilmesi veya Kurulması:

(1) Dağıtım sistemine bağlantı yapılmasının dağıtım şirketi tarafından ilave gerektirdiği hallerde veya sistem kullanımından aşırı kapasitenin yetersiz olması nedeniyle genişleme yanımı veya yeni yatırım yapılmasının gerekli olduğu hallerde yatırım dağıtım şirketince yapılır. Ancak yeterli finansmanına mevcut olmaması halinde üretim tesisi tüketim tesisi ile aynı yerde olan üreticiler, bu maddedeki yatırımlar için AÇ/YG'den Bağlantı Yapan Tüketiciler İçin Geçerli Dağıtım Sistemine Bağlantı Anlaşmasında öngörülen hükümlere göre işlem yapabilirler. Ancak üretim tesisi tüketim tesisi ile aynı yerde olmayan üreticiler yeterli finansmanına mevcut olmaması halinde dağıtım şirketi ile akdedecekleri özel hukuka tabi bir sözleşme kapsamında bu yatırımı yapabilir. Bir sözleşme kapsamında yapılan genişleme ve/veya yeni yatırımın gerçekleştirilme bedelinin veya ne kadarını geri ödeneceği, geri ödemelerin esas ve usulleri ile bu anlaşmanın ve yapılacak özel hukuka tabi anlaşmanın feshedilmesi halinde tarafların hak ve yükümlülükleri taraflar arasında akdedilecek anlaşma ile belirlenir.

(2) Bir Başka Üretici Mülkiyetindeki Tesisten Faydalanma:

(1) Dağıtım sistemine bağlı bir üretici tarafından bağlantı noktasına kadar müstakilen tesis edilmiş herhangi hatlardan Elektrik Piyasası Müşteri Hizmetleri Yönetmeliği çerçevesinde üçüncü şahıslar da yararlanabilir.

B. Mali Yükümlülükler:

1. Bağlantı Bedeli:

(1) Dağıtım Şirketi'nin Kurul tarafından onaylı tarifesindeki yömeme göre hesaplanan bağlantı bedeli üretici tarafından Dağıtım Şirketine ödenir.

2. İşletme ve Bakım Masraflarının Karşılınması:

(1) Bağlantı varlıklarının işletme ve bakım masrafları, mülkiyet sınırları dahilinde ilgili taraflarca karşılanır.

3. Diğer Masraflar:

(1) Bu anlaşmadan doğan vergi, resim, harç gibi yükümlülükler ile diğer masrafların tamamı üreticiye aittir.

4. Tazminat:

(1) Üretici ve işletme sorumluluğu, bu anlaşma ve ilgili mevzuatı aykırı kusurlu davranışları sonucunda Dağıtım Şirketi'nin uğradığı zararları tazmin eder. Dağıtım şirketi de kusurlu davranışından kaynaklanan üreticinin zararını ödemekte yükümlüdür.

Melih BAYRAK
Flaktis İlçesi Müdürü



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C. Teknik Hükümler:

1. Veri Sağlama:

(1) Üretici, bağlantının gerçekleştirilmesi için talep edilen her türlü bilgi ve belgeyi Dağıtım Şirketine verir.

2. Koruma ve Ölçüm Sistemi:

Koruma:

(1) Üretici, uygulanacak koruma sistemi ile ilgili tasarımlarını ilgili mevzuat çerçevesinde belirlenen şartlara uygun olarak hazırlayarak Dağıtım Şirketine sunar ve koruma ayarlarını Dağıtım Şirketi ile varacağı münabakatı uyarınca Dağıtım Şirketi'nin kontrol ve koordinasyonu altında yapar. Dağıtım Şirketi ile üreticinin münabakata vardığı koruma sistemi ayarları ile ilgili ayrıntılar Ek-3'de belirtilmiştir.

(2) Üretici, bağlantı noktasında, bölgenin çevre şartları da göz önüne alınarak tespit edilen ilgili teknik mevzuata ve TS/EN/IEC standartlarına uygun olarak standartlarına uygun malzeme kullanır.

Ölçüm Sistemi:

(1) Ölçüm sisteminde ilgili mevzuata tanımlanan sayaçlar kullanılır.

(2) Ölçüm sistemi ile ilgili projeler, mevzuata uygun olarak üretici tarafından hazırlanır ve Dağıtım Şirketi tarafından kontrol edilir.

(3) Üretici, ölçüm sisteminin karşılıklı kayıt altına alınması, ölçüm sistemini oluşturan teçhizatın projeye göre kontrolü ve hassasiyeti testleri için Dağıtım Şirketine başvuruda bulunur.

(4) Üretici, üretim tesisinin tüketim tesisleriyle aynı yerde olması halinde bu Anlaşmada belirtilen yere ilgili mevzuata dengeleme ve uzlaştırma sisteminin gerektirdiği haberleşmeyi sağlayabilecek çubuk yönlü ölçüm yapabilen saatlik sayaç tesis eder. Ayrıca üretim tesisinin üretimini ölçmek amacıyla müstakil bir sayaç daha tesis eder. Üretici, üretim tesisinin tüketim tesisleriyle aynı yerde olmaması halinde ise bu Anlaşmada belirtilen yere ilgili mevzuata dengeleme ve uzlaştırma sisteminin gerektirdiği haberleşmeyi sağlayabilecek ana sayaç tesis eder. Ancak aynı yerde birden çok kaynağa dayalı üretim tesisinin bulunması halinde, her bir üretim tesisi için ayrı yedek sayaç teçhizatı edilir.

(5) Ölçüm sisteminde yer alan sayaçlarla ilgili devreye alma ve periyodik muayene işlemleri Ek-4'e uygun olarak gerçekleştirilir.

(6) Taraflardan birisi test tarihleri dışında sayaçları/sayaçlarını hatalı ölçüm yaptığına iddia ederse, 3516 sayılı Ölçüler ve Ayar Kanunu ve Ölçü ve Ölçül Metreleri Muayene Yönetmeliği ve Elektrik Piyasası Müşteri Hizmetleri Yönetmeliği hükümleri uyarınca işlem yapılır.

(7) Taraflardan biri, sayaçların hatalı ölçme yaptığına iddia eder ve test sonucunda söz konusu cihazların hassasiyet sınıfı içerisinde çalıştığı anlaşılırsa, yapılan bu testin sonuçları, talepte bulunan tarafa karşılanır; aksi durumda test sonuçları ölçüm teçhizatı hatalı olan tarafa karşılanır.

(8) Ölçme sistemine dahil olan tüm sayaçlarla ilişkin olarak müdahale kopartılabilirliği veya sayaçların normal ölçüm yapmasına engel olacak mahiyette herhangi bir müdahalenin yapılmış olduğu tespit edilirse veya sayaçlar kayıt yapılmıyorsa veya kontrol ve test sonucu ana sayaçın yanlış ölçüm yaptığı tespit edilirse, ana sayaç grubu kayıtlı değerlerinin yedek sayaç grubu kayıt değerleri ile aynı olduğu saat ölçümünden itibaren doğru enerji miktarları yedek sayaç grubu üzerinden tespit edilir. Yedek sayaç grubunun da müdahale kopartılabilirliği veya sayaçların normal ölçüm yapmasına engel olacak mahiyette herhangi bir müdahalenin yapılmış olduğu tespit edilirse veya yedek sayaç da kayıt yapılmıyorsa veya kontrol ve test sonucu yedek sayaçın yanlış ölçüm yaptığı tespit edilirse ilgili mevzuat hükümleri uygulanır.



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3. İletişim:

(1) Üretim tesisinin kurulu gücü 10 kW'ın üzerinde olan üreticiler, dağıtım şirketi tarafından gerekli alt yapının kurulması öncesi kaydıyla, dağıtım şirketi tarafından yapılacak bildirim üzerine bu anlaşmada belirlenen mülkiyet sınırları dahilinde uzaktan izleme ve kontrol için gerekli ekipman ve altyapıyı tezlikte yüklenir. Dağıtım şirketi bildirimce uzaktan izleme ve kontrol sisteminin gerekli teknik özelliklerini de bildirir.

(2) Üretici ile iletişimin temin edilmesi için ilgili mevzuat kapsamında öngörülen donanımlar, üretici tesisinin dağıtım sistemine bağlanması aşamasında Dağıtım Şirketi ile görüşülerek suretyle belirlenir. İletişim sistemine ilişkin bilgiler Ek-5'de belirtilmiştir.

4. Kompansasyon:

(1) Kompansasyonun uygulanması ilgili mevzuat hükümlerine göre yapılır.

(2) Üreticinin, her bir ölçüm noktasından çektiği endüktif reaktif enerjinin/vereceği kapasitif reaktif enerjinin, aktif enerjiye oranı ilgili mevzuata uygun olmak zorundadır.

5. Harmonik Bozulmalar, Flicker Şiddeti, Faz Dengesizliği:

(1) Harmonik bozulmalar, flicker şiddeti ve faz dengesizliğinin giderilmesine ilişkin uygulamalar ilgili mevzuata uygun olarak yapılır.

6. Üretim Tesislerinin Tasarım ve Performans Şartları:

(1) Üretim tesisleri mevzuata uygun olarak tasarlanır, devreye alınır ve işletilir.

7. Talep Kontrolü:

(1) Dağıtım Şirketi, üreticinin talep kontrolünden etkilenme olasılığı bulunduğu halde etkilenen tarafe öncelikli olarak önceden haberdar eder. Üreticinin talep kontrolü uygulamalarına ilişkin bilgi ve yükümlülükleri Ek-6'da yer almaktadır.

8. Periyodik Bakım

(1) Üretici, üretim tesisinin koruma, bağlantı ve diğer kısımlarının periyodik (teçhizatın özelliğine göre aylık, üç aylık, altı aylık veya yıllık) olarak kontrol ettirir ve tutanak altına alır. Tutanaklara tarih sarası verilir ve bir nüshası dağıtım şirketine ibraz edilir.

(2) Dağıtım şirketi istediği zaman üretim tesisinin bağlantı ekipman, koruma düzenekleri ve diğer kısımlarının kontrolünü talep edebilir. Bu durumda üretici makul süre içinde arayışına başvurmak ve tutnaga dağıtım şirketine ibrazla mekelleştir. Üretici, denetimlerde ibraz edilmek üzere arayış ve bakım personelinin yeterli ve yetkin bir örneğini bulundurmaz.

MADE 7. İRİŞİM ve MÜDHALE HAKLARI:

(1) Dağıtım Şirketi, mülkiyet dışı gayri kamu hakları da dâhil olmak üzere,

a) Bağlantı ve dağıtım sistemi varlığını tesis, işletmesi, bakımı, kontrolü, test edilmesi ve sökülmesi,

b) Ölçüm sistemlerine zaman sınırlaması olmayacağından,

bakımına sahiptir. Tarifler, temsilcileri, çalışanları ve taraflarca davet edilen diğer kişiler;

a) Can ve mal güvenliğinin sağlanması için yapılması gereken acil durum müdahaleleri,

b) Dağıtım Şirketi'nin, dağıtım sistemini ilgili mevzuata yer alan hükümler uyarınca işletmek amacıyla yapacağı müdahaleler,



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dışında diğer tarafın tesis ve/veya teçhizatına müdahale edemez

MADDE 8. PARALEL GİRME

(1) Üretim tesislerinin paralel girme işlemlerine ilişkin alınması gerekli tüm tedbirler (koruma, kilitleme, iletişim gibi), üretim yapan üretici tarafından alınmalı ve paralel girme işlemleri dağıtım şirketinin komuta ve idareleri doğrultusunda üretim yapan üretici tarafından üretici tesislerinde gerçekleştirilecektir.

MADDE 9. MÜCBİR SEBEP HALLERİ:

(1) Taraflar bu anlaşmadan kaynaklanan bir yükümlülüğünü mücbir sebeplerden dolayı yerine getirememeleri halinde; mücbir sebebe yol açan koşulları, mahiyetini ve tahmini süresini açıklayan mücbir sebep bildirim raporunu, mücbir sebebin süresi boyunca yükümlülüklerini yerine getirememe durumunu ortadan kaldırmak için aldığı önlemleri ve diğer ilgili bilgileri içeren bir raporu veya süregiden olaylarda periyodik raporları diğer tarafa gönderir. Dağıtım şirketinin raporu ya da raporları resmi internet sitesinde derhal yayımlanması zorunludur. Ancak raporun bir suretini istemesi halinde üreticiye derhal gönderilir/braz edilir.

MADDE 10. ÜRETİCİ BAĞLANTISININ VE/VEYA ENERJİNİN KESİLMESİ:

- (1) Dağıtım Şirketi;
- a) Bu anlaşma ve ilgili mevzuat hükümleri gereğince enerji kesilmesini gerektiren durumlarda en az 2 (iki) gün önceden bildirimde bulunmak suretiyle,
 - b) Dağıtım sisteminin herhangi bir bölümünün Dağıtım Şirketi tarafından test ve kontrolünün, tadilatının, bakımının, onarımının veya genişletilmesinin gerektirdiği durumlarda en az 5 (beş) gün önceden bildirimde bulunmak suretiyle,
 - c) Mücbir sebep hallerinden birine bağlı durumlarda,
 - d) Can ve mal güvenliğinin sağlanmasının gerektirdiği durumlarda,
 - e) Dağıtım sistemini veya enerji alımı veya verilen başka bir sistemi etkileyen veya etkileme ihtimali olan kaza, sistem arızası veya acil durumlarda,
- üreticinin tesis ve/veya teçhizatının bağlantısını kesebilir.
- (2) Enerji kesintisine neden olan durumu ortadan kalktıktan sonra üreticiye ait tesis ve/veya teçhizat ilgili mevzuat hükümlerine göre yeniden enerjilendirilir.
- (3) Üreticinin bağlantı noktasında enerjinin kesilmesine ilişkin yazılı talebi Dağıtım Şirketi tarafından verilen mutabakat çerçevesinde yerine getirilir. Bu kapsamda dağıtım şirketinin enerjisi kesme ve tekrar verme işlemleri ile ilgili olarak yaptığı harcamalar, üretici tarafından üstlenilir.

MADDE 11. DAĞITIM SİSTEMİNDEN AYRILMA:

- (1) Üretici, bu anlaşmaya konu tesis ve/veya teçhizatını sistemden ayırma talebini en az iki ay önceden Dağıtım Şirketine yazılı olarak bildirir.
- (2) Dağıtım Şirketi ile üretici farklı bir süre için mutabık kalmadıkta, takdirde, sistemle bağlantısının fiziki olarak kesilmesini takip eden dört ay içerisinde birbirlerini arazi üzerinde bulunan varlıklarını kaldırır.

MADDE 12. DEVİR, TEMLİK VE REHİN:

- (1) Üretici, bu anlaşma kapsamındaki haklarını veya yükümlülüklerini başkalarına devir, temlik ve rehin konu edemez.



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MADDE 13. HİZMET ADIMI:

(1) Dağıtım Şirketi ile Üretici, önceden birbirlerinin yazılı onayını almaksızın, bu anlaşma kapsamındaki yükümlülüklerini hizmet alımı yoluyla başkalarına gönderebilir. Hizmet alımı yoluna gidilmesi, bu anlaşma kapsamındaki yükümlülüklerin devri anlamına gelmez. Hizmet alımında bulunan üretici, bu durumu uygulanmanın başlamasından en az 3 (üç) yıl önceki tarihten Dağıtım Şirketine yazılı olarak bildirir.

MADDE 14. GİZLİLİK:

(1) Taraflar, ilgili mevzuatın uygulanması sonucu veya piyasa faaliyetleri yahut bu anlaşmanın uygulanması sonucunda sahip oldukları ticari önemi taşıyan bilgilerin gizli tutulması için gerekli tedbirleri almak ve kendi işbirlikleri veya hissedarları olan tüzel kişiler dahil üçüncü şahıslara açıklamamak ve ilgili mevzuat ile öngörülen hususlar dışında kullanmamakta yükümlüdür. Tarafata, yeni başlatılan veya yürüten projeleri kapsamında danışmana yahut bağımsız denetim kuruluşuna, işlem denetçisine veya sigorta şirketine sunulan veya kamuya mal olmuş bilgiler ile yarırlukta olan karar ve düzenlemeler ya da verilmiş olan bir mülkeme kararı, ticari emil gereğince açıklanması gereken bilgilerin gizli bilgi tanımına girmediğini kabul ederler.

MADDE 15. FERAGAT:

(1) Üretici yazılı olarak haklarından feragat etmediği sürece, ilgili mevzuat ve bu anlaşma kapsamındaki hakların kullanılmasında, gecikme, bu haklarını tamamen veya kısmen ortadan kaldırmaz ve bu haklardan feragat edildiği anlamına gelmez. Bir hakkın kısmen kullanılmasında, bu hakten veya başka bir hakkın ileride kullanılmasını engellemez.

MADDE 16. CEZAI ŞARTLAR:

(1) Üreticinin ilgili mevzuat ve bu anlaşma hükümlerinin herhangi birini ihlal etmesi durumunda, Dağıtım Şirketi, yazılı bildirim yapılarak aşağıda yer alan cezai şartları uygular.

İstisna Tanımı	Üretici Tarafından Dağıtım Şirketine Ödenmesi Gereken Cezai Şart
a) Üreticinin bağlantı noktasına anlaşma gücü çerçevesinde elektrik enerjisi verilmesi	Her takvim yılında; Üreticinin sisteme verdiği gücün anlaşma gücünü aşması halinde, sisteme verilen gücün anlaşma gücünü aştığı değerlerin en yüksekine dikkate alınarak, ilk aşımın gerçekleştiği aydan itibaren ilgili takvim yılı sonu veya ilgili takvim yılı sonundan önce ve bu anlaşmanın yürürlükte olduğu dönem sonuna kadar ceza uygulanır. Bu ceza, anlaşma gücüne oranla hesaplanarak (kW), ilgili takvim yılına en yüksek Sistem Kullanma Fiyatı üzerinden hesaplanacak bedelin dört katı olarak hesaplanır. Anlaşma gücü üzerinde sisteme verilen enerji miktarı, destek ödemesi hesaplarında dikkate alınmaz.
b) Üreticinin tesis ve/veya teçhizatının bu anlaşma ve ilgili mevzuatta belirlenen borucu etkilerle ilişkin sınır değerlerini aşması	İlgili bulunan en yüksek Sistem Kullanma Fiyatına göre hesaplanacak bedelin %5'ini oranında ceza uygulanır. Bu oran aylık olarak toplam %36'ı geçemez. Ceza,

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Melih SAYRAK
Elektrik Enerji Anıtl



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	00.00-24.00 saatleri arasında bir defadan fazla uygulanmaz.
e) Üreticinin ilgili mevzuatta tanımlanan emniyet tedbirlerini alınması, yanlış manevrası, testi ve işletme hatası veya teçhizat arızası gibi nedenlerle Dağıtım Şirketi çalışanlarının, tesislerinin, dağıtım sisteminin olumsuz yönde etkilenmesi	İçinde bulunulan aya ait Sistem Kullanım Fiyatına göre hesaplanan bedelin %5'i oranında ceza uygulanır. Ceza, 00.00-24.00 saatleri arasında bir defadan fazla uygulanmaz.
ç) Üreticiye ait arızalı işletim teçhizatının Dağıtım Şirketi'nin yazılı uyarısına rağmen onarılması/değiştirilmesi ve bu duruma ile kullarılmaya devam edilmesi	Gerekli onarım/değişiklik yapılmayıp ihlalın devam ettiği her gün için içinde bulunulan aya ait Sistem Kullanım Fiyatına göre hesaplanan bedelin %1'i oranında ceza uygulanır.
d) Üreticinin dağıtım sisteminin her bir ölçüm noktasında çekecekleri endüktif reaktif enerjinin/erecekleri kapasitif reaktif enerjinin, aktif enerjiye oranının ilgili mevzuata uygun olmaması	Üreticinin o ayki Sistem Kullanım Fiyatına göre hesaplanan bedelin % 0.25'i oranında ceza uygulanır. Ceza, her uzlaştırma periyodu için yapılacak ölçümlerin sonucuna göre 00.00-24.00 saatleri arasında bir defadan fazla uygulanmaz.
e) Üreticiye ait üretim tesisi ile bağlantı ekipmanının, şebeke kaybı olması veya kısa devre arızası oluşması durumlarında, dağıtım sistemiyle bağlantısının kesilmediğinin veya bağlantısı kesik olduğu halde enerjisiz şebekeye çok kısa, kısa veya uzun süreli enerji verildiğinin tespit edilmesi (ilgili kilitleme sistemlerinin çalışmaması)	Her bir ihlal için anlaşma gücü üzerinden hesaplanacak aylık sistem kullanım bedeli kadar ceza uygulanır.

(2) Dağıtım Şirketinin kendisinden kaynaklanan bir nedenle bu anlaşma kapsamında üreticiye taahhüt ettiği anlaşma gücünü sağlayamaması durumunda bu gücü sağlamadığı süreye karşılık gelen ve ilgili aya ait toplam sistem kullanım bedeli üzerinden hesaplanan bedel üreticiye ödenir. Elektrik Piyasasında Dağıtım Sisteminde Sunulan Elektrik Enerjisinin Tedarik Sürekliliği, Ticari ve Teknik Kalitesi Hakkında Yönetmelikte tanımlanan, geçici, kısa ve uzun süreli kesintiler ile ilgili sisteminden kaynaklanan nedenler ve mücbir sebepler sonucu oluşan kesintiler için ilgili mevzuattaki hükümler geçerlidir.

MADDE 17. EK PROTOKOLLER/EK SÖZLEŞMELER:

(1) Taraflar, karşılıklı mutabakatı sağlanabilir halde ve mevzuat çerçevesinde, aralarında bu anlaşmaya ek olarak ilave ve/veya değişiklik protokolleri/sözleşmeleri yapabilir.

(2) Bu anlaşmanın birinci bölümünde yer alan genel hükümler, Enerji Piyasası Düzenleme Kurul kararı ile değiştirilebilir.



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MADDE 18. TADİLATLAR:

(1) Yönetmelik, Tebliğ ve Elektrik Piyasasında İletim ve Dağıtım Sistemlerine Bağlı ve Sistem Kullanımı Hakkındaki Tebliğ hükümlerine göre yapılan tadilat, Ek-7'e işlenir.

MADDE 19. SONA ERME:

1) Bu anlaşma;
a) Üreticinin iznininin Yönetmelik ve Tebliğ kapsamında iptal edilmesi veya sona ermesi hallerinde,
b) Üreticinin iflasına karar verilmesi, tasfiye memuru atanması, hukuken tasfiyesini gerektiren bir durum ortaya çıkması veya acele düşmesi hallerinde,
c) Üretim tesisinin geçici kabul işlemlerinin, bu anlaşmanın imza tarihinden itibaren; YG seviyesinden bağlanacak hidroelektrik üretim tesislerinde üç yıl, YG seviyesinden bağlanacak hidroelektrik dışındaki üretim tesislerinde iki yıl, AG seviyesinden bağlanacak tüm üretim tesislerinde bir yıl içinde yapılmaması halinde bu anlaşma bu sürelerin sonunda, kendiliğinden sona erer.
(2) Bu anlaşmanın sona ermesi, doğmuş ve/veya doğacak maddi yükümlülükleri ortadan kaldırmaz.

MADDE 20. KISMI HÜKÜMSÜZLÜKTE ANLAŞMANIN GEÇERLİLİĞİ:

(1) Bu anlaşmanın herhangi bir hükümünün, batıl, hükümsüz, geçersiz, uygulanamaz veya mevzuata aykırı olduğu tespit edilirse; bu durum anlaşmanın geri kalan hükümlerinin geçerliğini kısmen veya tamamen ortadan kaldırmaz. Yapılan tespit sonucunda anlaşmanın yürütülmesine engel bir halin ortaya çıkmasının anlaşılması durumunda, anlaşma Türk Borçlar Kanunu çerçevesinde geçersiz kabul edilir.

MADDE 21. ANLAŞMAZLIKLARIN ÇÖZÜMÜ:

(1) Dağıtım Şirketi ile üreticinin bu anlaşmanın hükümleri üzerinde mutabakata varamaması halinde, tarafler, anlaşmazlığın çözümü konusunda Kuruma yazılı olarak başvuruda bulunabilir. Anlaşmazlıklar Kurum tarafından çözüme kavuşturulur.

MADDE 22. BİLDİRİMLER:

(1) Bu anlaşma uyarınca yapılacak bildirimler, teahhütlü mektup veya telgraf kullarılaraq karşı tarafın ikamet adresine yapılır. Faturaya kayıt düşülerek yapılacak bildirimler de geçerlidir.
(2) Dağıtım şirketinin adres değişikliği, resmi internet sayfasını yayımlanarak bildirilir.

MADDE 23. MEVZUATA UYUM:

(1) Bu anlaşmanın yürürlük tarihinden sonraki mevzuat değişiklikleri tarafları bağlar. Bu anlaşma hükümleri mevzuat hükümlerine uymama gereğesi olarak ileri sürülemez.

Melih GAYRAK
Elektrik Birim Anvri



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LİSANSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

MADDE 24. YÜRÜRLÜĞE GİRME:

(1) Bu anlaşma, cezaî şartlar bakımından üreticinin dağıtım sistemini kullanmaya başladığı tarihte diğer hükümleri bakımından imzalanacağı tarihte yürürlüğe girer.

Ekler:

1. Bağlantı Bilgileri,
2. Mülkiyet Sınırları Çizelgesi,
3. Bağlantı Tek Hat Şeması
4. Koruma Sistemi Ayatları,
5. Devreye Alma Tesitleri,
6. İletişim Sistemine İlişkin Bilgiler,
7. Üretici Talep Kontrolü Uygulamalarına İlişkin Hak ve Yükümlülükler,
8. Tadilat,
9. Tesis Sözleşmesi
10. Diğer Yükümlülükler



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1. İSANSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

İKİNCİ BÖLÜM

EK-1

BAĞLANTI BİLGİLERİ

Tesisin Adresi	Osmaniyeye Mah. Kapalıpaazar Yeri Mevki Akşakoca/DÜZCE
Üreticinin Bağlanacağı Nokta	İTMEAT için tesis tesis şeması mevki tesis şeması Tablo Kona (DM4001), Madeni Kök DM4003, Madeni Kök DM4004, TOKİ DM4002, Kaçnak (Eski Sanayi) DM4006 nolu kabin aşerisine tesis edilecek hücreden itibaren alınarak bağlantı hattı sonunda tesis edilecek ölçü merkezi
Gerilim Seviyesi	:34.5 kV
Ölçüm Noktası	Kullanıcı Tesisinde bulunan ölçü hücresinde
Bağlantı İçin Öngörülen Tarih	:09.03.2025
Bağlantı Bedeli	: Bağlantı Bedeli Alınmayacak.
Tüketim için Anlaşma Gücü	
Kuru Güç	: 1800 kW
Bağlantı Gücü	: 1080 kW
Bağlantı Vantilakları	
Üretim için Anlaşma Gücü	
Kuru Güç	: 1080 kW
Bağlantı Vantilakları	
Ölçüm Sistemi Tek Hat Şeması	: Sayış bağlantı şeması anlaşma ekinde dir
Tapu Kaydı	: Düzceli, Akşakoca İlçesi, Fındarısı Mevkii 103 Ada, 60 Parsel
Parsel Elektrik Projesi	: 12.08.2020 tarih 30 LUY.GES.51.0002 sayılı proje
İnşaat/Yapı Kullanım İzin Belgesi	



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EK-2 MÜLKİYET SINIRLARI ÇİZELGESİ

TEDAS'ın 12.08.2020 tarih 20 LUY.GES.31.0602 sayılı kararı ile onaylanmış olduğu projede belirlendiği üzere Akçakoca TMD'nin şifalı hatları sırasıyla enerji iletim hatları (Sarı Kök DM4001), Stadyum Kök DM4003, Mektepli Kök DM4004, TOKİ DM4062, Köpek (Zemli Saraylı) DM4006 noluk kabın açılışına tesisi edilecek hürerden imalat alınarak bağlantı hattı sonuna tesis edilecek ölçü merkezini, sonrasını tesis edilecek edilecek olan hatın ve hat sonrasındaki kullanıcılara ait ölçüm noktasının mülkiyeti, işletimi ve bakımı kullanıcılara aittir.

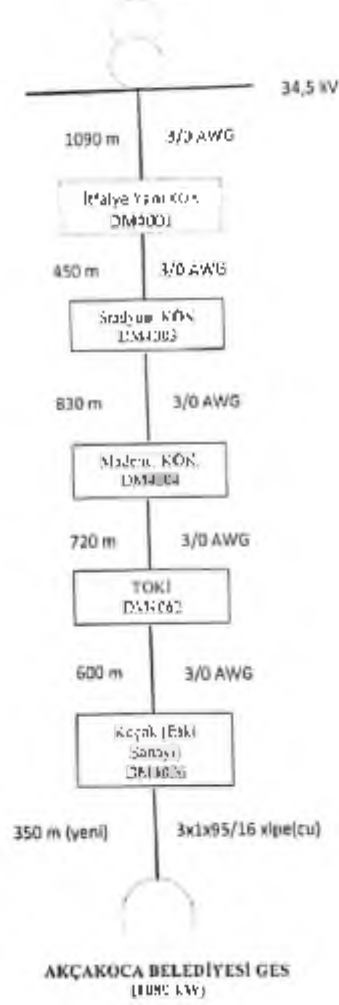


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LİSANSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

EK-3 BAĞLANTI TEK DAT ŞEMASI

AKÇAKOCA İM 110.35
Akçakoca Şekil 21idedi
TAB 1106.F02



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Mehmet BAYRAK
Elektrik Etkin Amir
M



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LİSANSİZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

EK 4 KORUMA SİSTEMİ AYARLAR

Sanalat Kabulünün ardından Üretici Dağıtım Şirketi ile Mutabık kalınan koruma sistemi ayarlarını yazılı olarak Dağıtım Şirketine bildireceğini taahhüt eder. Bilirinin yapılmamasından doğacak her türlü zarar Üretici Tüzel Kişiliđi tarafından karşılanacaktır.



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ÜSANSIZ ÜRETİCİLER İÇİN DAĞITIM SİSTEMİNE BAĞLANTI ANLAŞMASI

EK-5 DEVREYE ALMA TESTLERİ

Bu Ek, devreye alma programına dahil edilecek olan testleri ve kontrolleri belirler.

Ölçüm teçhizatı, topraklama ve izolasyonu gibi temel testler de **İhtisat Tesisleri Kabul Yönetmeliği** ve **Elektrik Kuvvetli Akım Tesisleri Yönetmeliğinde** belirtilen diğer şartlara da tabi tutulur.

1. Ölçü Transformatörleri

Yeni ölçü transformatörleri devreye alınırken Dağıtım Şirketi, saha testleri ve denetimler ile ilgili olarak aşağıdaki hususları tespit eder ve kayıt altına alır.

- (a) Seri numaraları, çevirme oranı, gücü, dayma katsayısı, ortal yılı, hassasiyet sınıfı dahil olmak üzere tesis edilen üniteye ait detayları,
- (b) Her sekonder sargı için GT ve AT'nın kullanılan çevirme oranı, polaritesi ve ölçüm teçhizatını da gösteren prensip şeması.

Dağıtım Şirketi mevcut ölçü transformatörleri için, pratikte mümkün olduğu sürece (a) ve (b) bentlerindeki yükümlülükleri gerçekleştirir. Ancak, Dağıtım Şirketi her durumda AT çevirme oranlarını tespit eder ve kayıt altına alır.

2. Ölçü Transformatörleri Bağlantı ve Yükleri

Tüm testler için Dağıtım Şirketi, pratikte mümkün olduğu sürece aşağıdakileri gerçekleştirir:

- (a) GT ve AT bağlantılarının doğrulanması,
- (b) GT ve AT'lerin her bir ölçüm sekonderi için harici devre sekonder yük ölçümlerinin tespit edilip kayıt altına alınması,
- (c) AT ve GT'lerin ölçüm hassasiyetinin gerektirdiği en düşük yük değerlerinin standartlara göre (IEC185, IEC186) tespit edilip kayıt altına alınması.

3. Ölçüm Sistemi

3.1. Genel Kontroller

Aşağıdaki hususlar sahada veya başka bir yerde (fabrika, referans cihaz, akredite laboratuvar gibi) gerçekleştirilebilir.

- (a) Dengeleme ve Ulaştırma Yönetmeliği uyarınca gerekli olan ölçüm sistemi detay bilgilerinin kaydedilmesi,
- (b) Kayıtlardaki GT ve AT çevirme oranlarının sahadaki oranlarla aynı olduğunun tespit edilip kayıt altına alınması,
- (c) Varsa, sayaç test terminal bloklarının sağlığına çalışmasının tespit edilmesi,
- (d) Kablo ve bağlantıların usulünce şemaya uygunluğunun tespit edilmesi,
- (e) Sayaç bağlantısının emerinin akış yönüne göre doğru yapıldığı olduğunun tespiti,
- (f) Bağımsız Yerel Veri Toplama Ünitelerini kullanılması durumunda, sayacı Yerel Veri Toplama Ünitesine bağlayan kumanda gerçekleştirilecek talimatlarının ve sayaç böcmlerine ait değerlerinin veya eşdeğer verilerin her sinyal için doğru olduğunun tespit edilmesi,
- (g) Yerel sorulama teçhizatının doğru çalışmasının tespit edilmesi



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3.2. Sahâ Testleri

Aşağıdaki testler sahâda gerçekleştirilir;

- Yukarıdaki 1, 2 ve 3.1 maddeleri uyarınca sahâdaki daha önceden kontrol yapılmamış olan kablo ve bağlantıların kontrol edilmesi,
 - Sayaç/Yerel Veri Toplama Ünitesi'nin koordineli evrensel saate göre doğru ayarlanmış olduğunun tespiti,
 - Sayaç terminallerindeki gerilim bağlantılarının ve fazların sırasının doğru olduğunun kontrol edilmesi,
 - Sayaç/Yerel Veri Toplama Ünitesi'nin ilk endeks tespit protokolünün yapılması ve kayıt altına alınması,
 - Her sayaç GT ve AT çevirme oranı da dikkate alınarak mevcut yükte veya bir güç kaynağı vasıtasıyla uygulanan yükte sayaç kaydının doğru olduğunu teyit etmek amacıyla testi edilmesi,
- (f) Sayaç alarm bilgilerinin fonksiyonlarının kontrol edilmesi

4- İlgili mevzuat ve ilgili teknik mevzuatın ve bu mevzuatta anıl yapılan standartların öngördüğü diğer deney ve testleri.



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EK-6 İLETİŞİM SİSTEMİNE İLİŞKİN BİLGİLER

SAYAÇLARIN OSOS KAPSAMINA DAHİL EDİLMESİ İÇİN TARAFLARIN GÖREVLERİ VE SORUMLULUKLARI

Yönetmeliğin 6. Maddesine göre OSOS Sayaç, Modem ve İletişim altyapısının temini ve işletiminden sorumlu taraflar aşağıda belirtilmiştir:

(1) OSOS kapsamına dahil edilecek sayaçlar için, sayaç ile bütünlük modem tercih edilmesi halinde bütünlük sayaç ve modem, aksi takdirde haberleşme portunu hazır sayacın sağlanması sayaç mülkiyetini buuz tarafir sorumluluğundadır. (2) Aşağıda belirtilen sayaçlar için, modem ile bütünlük sayacın tercih edilmesi halinde modem haric olmak üzere, sayacın modemle bütünlük olmaması halinde modem dahil her türlü haberleşme donanımı ve OSOS ile iletişim kurulması için gerekli teçhizatı ve altyapının temini,

- Dağıtım sistemine bağlı üretim tesis niteliğindeki uzlaştırmaya esas verici-çekici birimlerinin uzlaştırmaya esas verici-çekici birimini konfigürasy onlarınına yer alan sayaçlar için üretim faaliyeti gösteren ilgili özel kişinin,
- OSOS kapsamında yer alan yer alı suyu kullanma belgesi, sahibi olan tüketici lere ait tüketim verilerinin iletelebilmesi için kurulacak sistem kapsamında dahil olacak tüketim noktaları için ilgili ilköctekinin,
- Dağıtım sistemine bağlı uzlaştırmaya esas verici-çekici birimi konfigürasyonu içerisinde yer alan diğer tüm sayaçlar için ilgili dağıtım lisansı sahibi özel kişinin, sorumluluğundadır.

1. SEDAŞ OSOS KAPSAMINDA KULLANILACAK SAYAÇLARIN ASGARİ TEKNİK ÖZELLİKLERİ

- 1.1. Sayaçlar yürürlükteki mevzuat hükümlerine uygun olarak gerekli testleri yapmış ve sistem onay belgesine sahip olacaktır.
- 1.2. Kullandığı ölçü noktasının durumuna göre elektrik piyasası mevzuatında öngörülen asgarî özellikleri taşımaktadır.
- 1.3. Sayaç üzerinde, uzaktan haberleşmeyi sağlamaya yönelik dahili haberleşme donanımı bulunmalı veya harici haberleşme donanımı ile entibati sağlanacak, optik portları bağımsız, C1 veya RS 485 elektriksel haberleşme portu veya ethernet (RJ-45) haberleşme portu bulunmalıdır.
- 1.4. Sayaçlar, enerji kesik oları duhi, ön kapak ve klemens kapığı açılma müdahalelerini kaydedebilen ve bu bilgilerin haberleşme donanımı üzerinden okunmasına imkan sağlayıcı özellikte olmalıdır (Mevcutlik alan -an.knmt- müdahaleleri sayısı ve başlama / bitiş tarih ve saatleri konusunda son 10 kayıt).
- 1.5. Sayaçlar yök profilli verime özelliğini haiz olmalı, yük profilli 15, 30, 60'ar dakikalık periyotlar kapsamında yapabilmeli, yük profilli ölçü n periyotları uzaktan ayarlanabilir olmalıdır.
Sayaçlar her 15 dakikalık ölçümleri içeren yük profillerini hafızasında en az 90 gün süre ile saklayabilmelidir.
- 1.6. Sayacın gerçek zaman saatini besleyen pilin ömrü irtual tarihten itibaren en az 10 yıl olmalıdır.
- 1.7. Sayaçların zaman senkronizasyonu uzaktan yapılabilir olmalıdır.



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1.8. OSOS sistemine dahil olacak sayaçların ana terminalleri arasındaki darbe dayanım gerilimi ilgili standartlara uygun olarak en az 10 kV olmalıdır.

1.9. Sayaçlarda demans bilgisi oluşturma ve sıfırlama işlemleri, programlanan tarih-saatte otomatik olarak veya mühür altındaki bir butona basılarak veya haberleşme donanımı üzerinden uzaktan yapılabilir.

1.10. Sayaçlar, ileri ve geri saat (yaz saati uygulaması) uygulamasını otomatik olarak kendisi yapabilmeli veya aynı zamanda uzaktan erişimi sağlamak saat ve gün değişikliği yapılabilir.

2. SEDAŞ OSOS KAPSAMINDA GSM/GPRS ŞEBEKELERİNİ DESTEKLEYEN HABERLEŞME ÜNİTESİNİN ASGARI TEKNİK ÖZELLİKLERİ

2.1. Standart internet protokollerini (TCP/IP vb.) ve bağlantılarını desteklemelidir.

2.2. Tek bir haberleşme operatörüne bağımlılık olmamalıdır.

2.3. Kontrol merkezi yazılımı ile haberleşmede RSA, DES, 3DES, AES veya BLOWFISH veya uluslararası standartta sahip yüksek güvenliği olan güncel kriptolama algoritmalarından birini desteklemelidir.

2.4. Harici modemlerde en az bir adet sayısal giriş, bir adet sayısal çıkış veya röle çıkış birimi olmalıdır.

2.5. Haberleşme portu ve diğer bağlantı terminallerinin kapağı mühürlenilebilir tipte olmalıdır.

2.6. Kimlik doğrulama ve şifreleme yapılabilir.

2.7. Tanımlanmış IP veya IP'ler dışında başka bir bağlantıya izin vermemelidir.

2.8. Bu amaçla, haberleşme yetkisine sahip Kontrol merkezinin ve/veya diğer merkezlerin tanımlanması için, cihazın en az bir IP ve bu IP'leri için TCP portları tanımlanabilir.

2.9. Yeni kurulacak OSOS sistemlerinde, dağıtım şirketi tarafından yapılacak planlama çerçevesinde gerek görülmesi halinde haberleşme ünitesi ölçü noktası ile kontrol merkezi arasında çift yönlü haberleşmeyi desteklemelidir.

2.10. Harici modemlerde Üzerinde gerçek zamanlı olmalıdır. Gerçek zaman saatinin ve parametrelerinin değişikliği yerel ve uzaktan yapılabilir, bu işlem için şifre koruma özelliği olmalıdır.

2.11. CE Sertifikasına sahip olmalıdır.

2.12. Haberleşmeyi, ölçü noktaları ile kontrol merkezi arasında, GSM/GPRS ve/veya EDGE 900/1800/1900 Class B haberleşme kanalı üzerinden sağlayabilir.

2.13. Üzerindeki RS232, RS485 veya C1 giriş/çıkış arızaları ile; Ölçü Noktaları, haberleşme operatörü ve Kontrol merkezi ile ilgili tanımlamalar, yazılımsal güncellemeler ve haberleşme protokolleri ile ilgili güncellemeler yerel olarak yapılabilir. Ayrıca, haberleşme ünitesi üzerindeki bu tanımlamalar ve güncellemeler Kontrol merkezinden de yapılabilir.

2.14. Sayaça bütünlüklü haberleşme modülü kılınması halinde sayaçların sertifikasyon maliyeti artmadan ve sayaç yerinden sökülmeden haberleşme modülü değiştirilebilir olmalıdır.

2.15. Haberleşme ünitesi vasıtasıyla sayaçlardaki verilerinin tamamı veya tercihe göre bir kısmı (tahakkuk esas veriler, günlük yük profili, ölçü kayıtları, aktif-reaktif tüketimler, vb) kontrol merkezine transfer edilebilir.

2.16. Harici modemlerde haberleşme Ünitesi, aşağıda tanımlanan olaylara ilişkin kayıtları tutmalı (event LOG), bu kayıtları oluşumunu kontrol merkezine uyarı olarak iletebilmeli veya kontrol merkezinden sorgulanabilir.

- Uzaktan veya yerel program güncellemeler ve parametre tanımlamaları
- Tanımlanan IP dışında yetkisiz IP'den yapılmaya çalışılan erişimler

2.17. En az bağlı olduğu sayacın/sayaçların sağladığı çevresel koşullara uygun olmalıdır.

2.18. Enerji gereksinimi için bağlanacağı ölçü noktasının gerilimi seviyesine uygun donanıma (dahili veya harici) sahip olmalıdır.

2.19. Sinyal seviyesinin düşük olduğu ortamlarda sinyal seviyesinin yükseltilmesi için **BAYRAK** Elektrik Ürün Anonisi



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bağlanabilmelidir.

2.20. Haberleşme ünitesi üzerinde enerjinin, GSM şebekesine bağlantı durumunun ve haberleşmenin yapıldığını gösteren uyarı göstergeleri olmalıdır.

2.21. Yazılımsal ve donanımsal olarak, kabul görülmüş Ulusal veya Uluslararası standartlara uygun olmalıdır.

2.22. Haberleşme ünitesi, sayaçla haberleşmede en az TS EN62056-21 mod C'ye göre haberleşmeyi desteklemelidir. Haberleşme hızı, sabit veya değişken olarak seçilebilmelidir.

2.23. Haberleşme ünitesi 220 V (AC) ile beslenebilir olacak, primer ölçüm yapılan noktalarda kullanılacak haberleşme ünitesinin beslemesi 57,8/100 V (AC) olacaktır.

2.24. Modem sayaçla bütüncülük ise, sayacın besleme gerilimi ile aynı olacaktır.

2.25. Elektronik/yetik alanlardan etkilenmeyecek bir yapıda olacaktır.

2.26. 50Hz ve +/- %5 Hz frekans aralığında çalışabilir olacaktır.

2.27. Kullanılacak haberleşme üniteleri, sayaçların haberleşme hızına uyum göstermelidir.

2.28. Haberleşme ünitesinin haberleşme parametreleri (baudrate, parity, databit, stopbit, zaman aşımı süresi) ölçü noktasında bulunan sayaca göre değiştirilebilmelidir.

2.29. Haberleşme üniteleri haberleşmenin kesilmesi durumunda veya ayarlanabilen sürede bir kendini otomatik başlatma (reset) özelliğine sahip olmalıdır.

2.30. OSOS sistemine dahil olacak harici tip haberleşme ünitelerinde şebekedeki dalgalanmalara karşı darbe dayanımı: en az 6 kV olmalıdır.

3. SEDAŞ OSOS KAPSAMINDA PSTN ŞEBEKESİNİ DESTEKLEYEN HABERLEŞME ÜNİTESİNİN ASGARİ TEKNİK ÖZELLİKLERİ

3.1. Haberleşme portu ve diğer bağlantı terminallerinin kapağı mühürlenebilir tipte olmalıdır.

3.2. En az bağlı olduğu sayacın sağladığı çevresel koşullara uygun olmalıdır.

3.3. Fecit gereksinimi için bağlanacağı ölçü noktasının gerilim seviyesine uygun donanım (dahili veya harici) sahip olmalıdır.

3.4. Haberleşme ünitesi 220 V (AC) ile beslenebilir olacak, primer ölçüm yapılan noktalarda kullanılacak haberleşme ünitesinin beslemesi 57,8/100 V (AC) olacaktır.

3.5. Haberleşme ünitesi üzerinde, şebekeye bağlantı durumunu ve haberleşmenin yapıldığını gösteren uyarı göstergeleri olmalıdır.

3.6. Üzerinde gerçek zaman saati olmalıdır. Gerçek zaman saatinin ve parametrelerinin değişikliği yerel ve uzaktan yapılabilir, bu işlem için şifre korumu özelliği olmalıdır.

3.7. PSTN şebekesine bağlanabilmesi için ilgili kurumlardan gerekli izinler ve onaylar alınmış olmalıdır.

3.8. Haberleşme ünitesi, sayaçla haberleşmede en az TS EN62056-21 mod C'ye göre haberleşmeyi desteklemelidir. Haberleşme hızı, sabit veya değişken olarak seçilebilmelidir.

3.9. Sayaçla bütüncülük haberleşme modülü kullanılması halinde sayaçların seri/likasyon mübütü açılmadan ve sayaç yerinden sökülmeden haberleşme modülü değiştirilebilir olmalıdır.

3.10. Kullanılacak haberleşme üniteleri, sayaçların haberleşme hızına uyum göstermelidir.

3.11. Haberleşme ünitesinin haberleşme parametreleri (baudrate, parity, databit, stopbit, zaman aşımı süresi) ölçü noktasında bulunan sayaca göre değiştirilebilmelidir.

3.12. Haberleşme üniteleri haberleşmenin kesilmesi durumunda veya ayarlanabilen sürede bir kendini otomatik başlatma (reset) özelliğine sahip olmalıdır.

3.13. OSOS sistemine dahil olacak harici tip haberleşme ünitelerinde şebekedeki dalgalanmalara karşı darbe dayanımı en az 6 kV olmalıdır.

SEDAŞ OSOS SİSTEMİ İLE İLETİŞİM TESTİ YAPILAN SAYAÇLAR

SEDAŞ OSOS kapsamında sistemle iletişim testleri yapılan sayaç marka ve modelleri aşağıdaki listede belirtilmiştir. Ancak bu listede belirtilen sayaçların sistemimize bağlantısı için gereken test ve kabul işleminde, SEDAŞ OSOS Kapsamında Kullanılacak Sayaçların



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Aşağı Teknik Özellikler'ne uygunluk şartı aranmaktadır.

Üretici	Model	İletişim Protokolü
Landis+Gyr	ZAGG / E550	DLM5
Fischer	A1500	IEC61107
Iron	SL761C071	DLM5
Makel	KYV2221	IEC61107
Luna	LUN4	IEC61107
Viko	VEM- TS1030B2	IEC61107



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EK-7 ÜRETİCİNİN TALEP KONTROLÜ UYGULAMALARINA İLİŞKİN HAK VE YÜKÜMLÜLÜKLERİ



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EK-8
TADİLAT

22

Melih DAYRAK
Elektrik Dağıtım Amiri



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Lisanssız Üreticiler İçin Dağıtım Sistemine Bağlantı Anlaşması

EK-9
TESİS SÖZLEŞMESİ
Tesis sözleşmesi düzenlenmiştir.



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EK-10 DİĞER YÜKÜMLÜLÜKLER

İş bu Bağlantı Anlaşması düzenlenmiş olup Geçici Kabul Onayı yapıldıktan sonra Geçici Kabul Onayı evraklarıyla birlikte Şirketiniz ile Sistem Kullanım Anlaşması düzenlenmesi gerekmektedir.

Ölçüm Devresi için kullanılacak olan sayaçların, Sistem Kullanım Anlaşması imzalanmadan önce SEDAS'ın bütünlüğü bütünlüğü uzaktan okunma (USOS) Sistemine uygun olarak belirtilmiş olan sayaçların temini edilmesi gerekmektedir.

ANNEX-3. EIA Exemption Letter⁴



T.C.
ÇEVRE, ŞEHİRCİLİK VE KLİMA BAKANLIĞI
Çevre ve Şehircilik İl Müdürlüğü

Sayı: 06708834-23043-E-700
Konu: Akçakoca

25.09.2020

AKÇAKOCA BELEDİYESİ BAŞKANLIĞINA

Eğilim: 18.08.2020 tarihli ve 23116/16-012.60.0.2000 sayılı yazınız.

Bu yazı; Akçakoca İlçesinde Akçakoca Belediyesi Yalı Mahallesi Akçakoca Dr. İsmail Hakkı Karadağ Akçakoca Belediyesi Başkanlığı tarafından yapılacak planlanan Akçakoca Belediyesi Enerji Enerji Santrali (2000 Kw) projesi, 25/11/2014 tarih ve 29188 sayılı Enerji Bakanlığı tarafından yürürlüğe giren ÇED Yürürlüğü Lisanslama ve İzleme Yönetmeliği kapsamında hazırlanan dosyalarla değerlendirilmiştir.

Ayrıca, planlanan yatırım ile ilgili olarak; 5491 sayılı Kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yürürlüğe Giren İhtisastanım Kanunu ve diğer mevzuat çerçevesinde inşaatın gerekli izneler alınması, etkililik değerlendirmesi, çevresel iznelerinin ve geliştirilmesine yönelik tedbirler stajyer alınması gerekmektedir.

Bilgilerinizi ve geçmişten rica ederim.

Yusuf KARZAL
Vali a.
Çevre ve Şehircilik İl Müdürü

18.08.2020 tarihli ve 23116/16-012.60.0.2000 sayılı yazınızla ilgili olarak...

⁴ Although the EIA exemption letter mentions Yalı neighborhood as the location of the Project, the Project currently falls into Osmaniye Neighborhood. Based on the information received from the Akçakoca Municipality, since the boundaries of the Yalı Neighborhood was altered, the current location of the Project is within the Osmaniye Neighborhood.



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in the framework of the Turkey-Compassion in Energy (Turkey-Compassion) project.

ANNEX-4. Title Deed of the Project Area



ANNEX-5. The Lists of Flora & Fauna Potentially To Exist In Akçakoca District

Flora Species

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Yastık zarife	<i>Acer campestre</i>	Least Concern (LC)	-	-
Ova akçağacı	<i>Acer campestre subsp. campestre</i>	-	-	-
Kurpotu	<i>Achillea pannonica</i>	-	-	-
Baldırıkara	<i>Adiantum capillus-veneris</i>	LC	-	-
Göktaşkesen	<i>Aegonychon purpurocaeruleum</i>	-	-	-
Fıtıkotu	<i>Agrimonia eupatoria subsp. eupatoria</i>	-	-	-
Koca tavusotu	<i>Agrostis gigantea</i>	-	-	-
Tavusotu	<i>Agrostis stolonifera</i>	LC	-	-
İnce saçotu	<i>Aira caryophylla</i>	-	-	-
Tül çiçeği	<i>Aira elegantissima subsp. elegantissima</i>	-	-	-
Mayasilotu	<i>Ajuga chamaepitys</i>	-	-	-
Dallımayasıl	<i>Ajuga chamaepitys subsp. palaestina</i>	-	-	-
Dağmayasılı	<i>Ajuga orientalis</i>	-	-	-
Meryemsaçı	<i>Ajuga reptans</i>	-	-	-
Kurbağakaşığı	<i>Alisma lanceolatum</i>	LC	-	-
Çoban düdüğü	<i>Alisma plantago-aquatica</i>	LC	-	-
Sarmısak hardalı	<i>Alliaria petiolata</i>	-	-	-
Benli soğan	<i>Allium guttatum subsp. guttatum</i>	-	-	-
Sürüsalkım	<i>Allium paniculatum subsp. paniculatum</i>	LC	-	-
Deli pırasa	<i>Allium scorodoprasum subsp. rotundum</i>	-	-	-
Sirmo	<i>Allium vineale</i>	LC	-	-
Kızılağaç	<i>Alnus glutinosa subsp. glutinosa</i>	-	-	-
Tarla tilkikuyruğu	<i>Alopecurus myosuroides subsp. myosuroides</i>	-	-	-
Gülhannaz	<i>Althaea cannabina</i>	-	-	-
Gülhatmi	<i>Althaea hirsuta</i>	-	-	-
Deli hatmi	<i>Althaea officinalis</i>	LC	-	-
Kömüş mancarı	<i>Amaranthus albus</i>	-	-	-
Hoşkuran	<i>Amaranthus blitum</i>	-	-	-
Horozibiği	<i>Amaranthus cruentus</i>	-	-	-
Tilkikuyruğu	<i>Amaranthus retroflexus</i>	-	-	-
Hıltan	<i>Ammi visnaga</i>	LC	-	-
Sivrisalep	<i>Anacamptis pyramidalis</i>	LC	-	-
Farekulağı	<i>Anagallis arvensis var. arvensis</i>	-	-	-
Bağırsakotu	<i>Anagallis foemina</i>	-	-	-
Tatlıbaba	<i>Anchusa hybrida</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Duvarnohutu	<i>Andrachne telephioides</i>	-	-	-
Kekire	<i>Angelica sylvestris</i>	LC	-	-
Hozan çiçeği	<i>Anthemis cotula</i>	-	-	-
Kokuotu	<i>Anthoxanthum odoratum subsp. odoratum</i>	-	-	-
Deligımı	<i>Anthriscus caucalis</i>	-	-	-
Aslanagzı	<i>Antirrhinum majus subsp. majus</i>	-	-	-
İpek çimi	<i>Apera spica-venti</i>	-	-	-
Fenotu	<i>Arabidopsis thaliana</i>	-	-	-
Temrentere	<i>Arabis sagittata</i>	-	-	-
Kocayemiş	<i>Arbutus unedo</i>	LC	-	-
Tarla kumotu	<i>Arenaria serpyllifolia</i>	-	-	-
Acı collik	<i>Argyrolobium biebersteinii</i>	-	-	-
Lohusaotu	<i>Aristolochia clematidis</i>	-	-	-
Gangırdak	<i>Aristolochia pontica</i>	-	-	-
Laz yavşanı	<i>Artemisia verlotiorum</i>	-	-	-
Kaba yavşan	<i>Artemisia vulgaris</i>	LC	-	-
Nivik	<i>Arum hygrophilum subsp. euxinum</i>	-	-	Endemic (E)
Yılan yarpuzu	<i>Arum nickelii</i>	-	-	-
Tilkişen	<i>Asparagus acutifolius</i>	LC	-	-
Papazsakalı	<i>Asparagus aphyllus subsp. orientalis</i>	-	-	-
Sarı çiriş	<i>Asphodeline lutea</i>	-	-	-
Kara saçakotu	<i>Asplenium adiantum-nigrum</i>	LC	-	-
Dalakotu	<i>Asplenium ceterach</i>	LC	-	-
Kalkan eğreltisi	<i>Asplenium onopteris</i>	LC	-	-
Geyikdili	<i>Asplenium scolopendrium</i>	LC	-	-
Saçakotu	<i>Asplenium trichomanes</i>	LC	-	-
Dikenotu	<i>Asteriscus spinosus</i>	-	-	-
Tavşanekmeği	<i>Asyneuma limonifolium subsp. limonifolium</i>	-	-	-
Hayat süpürgesi	<i>Atriplex hastata</i>	-	-	-
Unluca	<i>Atriplex tatarica var. tatarica</i>	-	-	-
Güzelavratotu	<i>Atropa belladonna</i>	-	-	-
Narin yulaf	<i>Avena barbata subsp. barbata</i>	LC	-	-
Deli yulaf	<i>Avena fatua var. fatua</i>	-	-	-
Yulaf	<i>Avena sativa</i>	-	-	-
Nicarotu	<i>Barbarea vulgaris subsp. vulgaris</i>	-	-	-
Karaballıbaba	<i>Bartsia trixago</i>	-	-	-
Koyungözü	<i>Bellis perennis</i>	-	-	-
Su keteni	<i>Bidens tripartita</i>	LC	-	-
Asfaltotu	<i>Bituminaria bituminosa</i>	-	-	-
Delişıra	<i>Blackstonia perfoliata subsp. perfoliata</i>	-	-	-
Tarak eğreltisi	<i>Blechnum spicant</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Sakalotu	<i>Bothriochloa ischaemum</i>	-	-	-
Tüylü kılcan	<i>Brachypodium pinnatum</i>	-	-	-
Koru kılcanı	<i>Brachypodium sylvaticum</i>	-	-	-
Kuşyüreği	<i>Briza maxima</i>	-	-	-
Zembilotu	<i>Briza media</i>	-	-	-
Küçükzembil	<i>Briza minor</i>	-	-	-
Başakotu	<i>Bromus hordeaceus subsp. hordeaceus</i>	-	-	-
Kum kılcanı	<i>Bromus hordeaceus subsp. thominii</i>	-	-	-
İyeotu	<i>Bromus japonicus subsp. japonicus</i>	-	-	-
Kırmızı brom	<i>Bromus madritensis</i>	-	-	-
Kirpikli damiye	<i>Bromus squarrosus</i>	-	-	-
Sağır ilcan	<i>Bromus sterilis</i>	-	-	-
Kır bromu	<i>Bromus tectorum</i>	-	-	-
Bataklıkgülü	<i>Butomus umbellatus</i>	LC	-	-
Şimşir	<i>Buxus sempervirens subsp. sempervirens</i>	LC	-	-
Portakal nergisi	<i>Calendula arvensis</i>	-	-	-
Top hardal	<i>Calepina irregularis</i>	-	-	-
Göl dilbersaçı	<i>Callitriche stagnalis</i>	LC	-	-
Çit sarmaşığı	<i>Calystegia sepium subsp. sepium</i>	-	-	-
Bürük	<i>Calystegia silvatica</i>	-	-	-
Yumak çanı	<i>Campanula glomerata subsp. hispida</i>	-	-	-
Çançiçeği	<i>Campanula lactiflora subsp. latifolia</i>	-	-	-
Memek	<i>Campanula lyrata subsp. lyrata</i>	-	-	-
Zarif çingirak	<i>Campanula persicifolia subsp. persicifolia</i>	-	-	-
Sidikli çançiçeği	<i>Campanula rapunculus</i>	-	-	-
Çobançantası	<i>Capsella bursa-pastoris</i>	LC	-	-
Dişlikök	<i>Cardamine bulbifera</i>	-	-	-
Kıllı kodim	<i>Cardamine hirsuta</i>	-	-	-
Hanım gömleği	<i>Cardamine quinquefolia</i>	-	-	-
Sivri kangal	<i>Carduus acicularis</i>	-	-	-
Kerbeş	<i>Carduus nutans subsp. leiophyllus</i>	-	-	-
Eşek soymacı	<i>Carduus pycnocephalus subsp. albidus</i>	-	-	-
Kurusaz	<i>Carex cuprina</i>	LC	-	-
Ayak otu	<i>Carex divulsa</i>	LC	-	-
Dalsaparna	<i>Carex filiformis</i>	-	-	-
Sert ayakotu	<i>Carex grioletti</i>	-	-	-
Kaba ayakotu	<i>Carex halleriana</i>	-	-	-
Tüylü çayırsazı	<i>Carex hirta</i>	LC	-	-
Çengelsazı	<i>Carex muricata</i>	LC	-	-
Salkım ayakotu	<i>Carex pallescens</i>	-	-	-
Salkımsaparna	<i>Carex pendula</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Üçsazotu	<i>Carex pseudocyperus</i>	LC	-	-
Merasazı	<i>Carex sylvatica subsp. sylvatica</i>	-	-	-
Kuzeyotu	<i>Carpesium abrotanoides</i>	-	-	-
Yedi kuzeyotu	<i>Carpesium cernuum</i>	-	-	-
Gürgen	<i>Carpinus betulus</i>	LC	-	-
Karakız dikeni	<i>Carthamus glaucus subsp. glaucus</i>	-	-	-
Sarıdiken	<i>Carthamus lanatus</i>	-	-	-
Kestane	<i>Castanea sativa</i>	LC	-	-
Çitlenbik	<i>Celtis australis</i>	LC	-	-
Yalçın çançiçeği	<i>Centaurea calcitrapa subsp. calcitrapa</i>	-	-	-
Deligözdikeni	<i>Centaurea iberica</i>	-	-	-
Kiyos düğmesi	<i>Centaurea kilaea</i>	-	-	E
Rize serçebaşı	<i>Centaurea salicifolia subsp. salicifolia</i>	-	-	-
Alakötürüm	<i>Centaurea urvillei subsp. urvillei</i>	-	-	-
Kırmızı kantaron	<i>Centaureum erythraea subsp. erythraea</i>	LC	-	-
Tukulotu	<i>Centaureum erythraea subsp. turcicum</i>	-	-	-
Pembe tukul	<i>Centaureum pulchellum</i>	LC	-	-
Mahmuz çiçeği	<i>Centranthus longiflorus subsp. longiflorus</i>	-	-	-
Ormankuşçuğu	<i>Cephalanthera damasonium</i>	LC	-	-
Çançiçeği	<i>Cephalanthera rubra</i>	LC	-	-
Tarla pelemiri	<i>Cephalaria transsylvanica</i>	-	-	-
Gevşek boynuzotu	<i>Cerastium brachypetalum subsp. roeseri</i>	-	-	-
Mızrak boynuzotu	<i>Cerastium dubium</i>	-	-	-
Koru boynuzotu	<i>Cerastium fontanum subsp. vulgare</i>	-	-	-
Boynuzotu	<i>Cerastium glomeratum</i>	-	-	-
Eğri boynuz otu	<i>Cerastium pumilum subsp. pumilum</i>	-	-	-
Kiraz	<i>Cerasus avium</i>	LC	-	-
Kınalı su boynuzu	<i>Ceratophyllum demersum</i>	LC	-	-
Erguvan	<i>Cercis siliquastrum subsp. siliquastrum</i>	LC	-	-
Kırlangıçotu	<i>Chelidonium majus</i>	LC	-	-
Telçe	<i>Chenopodium album subsp. album</i>	-	-	-
Kızılacak	<i>Chenopodium botrys</i>	-	-	-
Hindiba	<i>Cichorium intybus</i>	LC	-	-
Babrik	<i>Cionura erecta</i>	-	-	-
Kankurutan	<i>Circaea lutetiana</i>	-	-	-
Köygöçüren	<i>Cirsium arvense</i>	-	-	-
Eşek çalısı	<i>Cirsium creticum subsp. creticum</i>	-	-	-
Vişne kangalı	<i>Cirsium hypoleucum</i>	-	-	-
Yaygın kangal	<i>Cirsium vulgare</i>	-	-	-
Laden	<i>Cistus creticus</i>	-	-	-
Kartli	<i>Cistus salviifolius</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Akasma	<i>Clematis vitalba</i>	-	-	-
Yabani oğulotu	<i>Clinopodium menthifolium subsp. ascendens</i>	-	-	-
Yabani oğulotu	<i>Clinopodium menthifolium subsp. menthifolium</i>	-	-	-
Sümüklü fesleğen	<i>Clinopodium nepeta subsp. glandulosum</i>	-	-	-
Yabani fesleğen	<i>Clinopodium vulgare</i>	-	-	-
Yabani fesleğen	<i>Clinopodium vulgare subsp. vulgare</i>	-	-	-
Morçiçek	<i>Consolida orientalis</i>	-	-	-
Tarla sarmaşığı	<i>Convolvulus arvensis</i>	-	-	-
Çadırçiçeği	<i>Convolvulus cantabrica</i>	-	-	-
Selviotu	<i>Conyza canadensis</i>	-	-	-
Kızılcık	<i>Cornus mas</i>	LC	-	-
Kiren	<i>Cornus sanguinea</i>	-	-	-
Kansıgdiren	<i>Cornus sanguinea subsp. australis</i>	-	-	-
Kiren	<i>Cornus sanguinea subsp. sanguinea</i>	-	-	-
Akrep burçağı	<i>Coronilla scorpioides</i>	-	-	-
Çayır kazgagası	<i>Corydalis cava</i>	-	-	-
Fındık	<i>Corylus avellana var. avellana</i>	-	-	-
Çiçekçi papatyası	<i>Cota coelopoda var. bourgaei</i>	-	-	-
Boyacı papatyası	<i>Cota tinctoria var. discoidea</i>	-	-	-
Boyacı papatyası	<i>Cota tinctoria var. tinctoria</i>	-	-	-
Boyacı sumağı	<i>Cotinus coggygia</i>	LC	-	-
Kocakarı armudu	<i>Crataegus microphylla subsp. microphylla</i>	-	-	-
Yemişen	<i>Crataegus monogyna var. monogyna</i>	-	-	-
Kömüş dikenini	<i>Crataegus pentagyna</i>	LC	-	-
Kızılcırık	<i>Crataegus rhipidophylla var. rhipidophylla</i>	LC	-	-
Sakarkanak	<i>Crepis foetida subsp. rhoeadifolia</i>	-	-	-
Zarif kıskıs	<i>Crepis pulchra subsp. pulchra</i>	-	-	-
Yaban kıskısı	<i>Crepis sancta</i>	-	-	-
Kılçıklı kıskıs	<i>Crepis setosa</i>	-	-	-
Ardıç kıskısı	<i>Crepis smyrnaea</i>	-	-	-
Kese kıskısı	<i>Crepis vesicaria</i>	-	-	-
Yer çiğdemi	<i>Crocus flavus</i>	-	-	-
Sarılıkotu	<i>Cruciata laevipes</i>	-	-	-
Gelindöndüren	<i>Crupina crupinastrum</i>	-	-	-
Kafir saç	<i>Cuscuta campestris</i>	-	-	-
Eftimon	<i>Cuscuta epithimum subsp. kotschyi</i>	-	-	-
Bostanbozan	<i>Cuscuta europaea</i>	-	-	-
Gökbaş	<i>Cyanus depressus</i>	-	-	-
Domuz ağırşığı	<i>Cyclamen coum subsp. caucasicum</i>	-	ANNEX-I	-
Yersomunu	<i>Cyclamen coum subsp. coum</i>	LC	ANNEX-I	-
Nakkaşotu	<i>Cymbalaria longipes</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Köpekdişi	<i>Cynodon dactylon var. villosus</i>	-	-	-
Pisik tetiği	<i>Cynoglossum creticum</i>	-	-	-
Tarakotu	<i>Cynosurus cristatus</i>	-	-	-
Top tarakotu	<i>Cynosurus echinatus</i>	-	-	-
Abdülaziz	<i>Cyperus esculentus</i>	LC	-	-
Maydanozbağı	<i>Cyperus fuscus</i>	LC	-	-
Topalak	<i>Cyperus rotundus</i>	LC	-	-
İnekmemesi	<i>Cytinus hypocistis subsp. orientalis</i>	-	-	-
Yer narı	<i>Cytinus ruber</i>	-	-	-
Keçi tırfılı	<i>Cytisus hirsutus</i>	-	-	-
Kıllı domuzayrığı	<i>Dactylis glomerata</i>	-	-	-
Domuzayrığı	<i>Dactylis glomerata subsp. glomerata</i>	-	-	-
Kıllı domuzayrığı	<i>Dactylis glomerata subsp. hispanica</i>	-	-	-
Sırmağu	<i>Daphne pontica subsp. pontica</i>	-	-	-
Renkodu	<i>Datisca cannabina</i>	-	-	-
Boru çiçeği	<i>Datura stramonium</i>	-	-	-
Yabani havuç	<i>Daucus carota</i>	LC	-	-
Benekli havuç	<i>Daucus guttatus</i>	DD	-	-
Dendefirişotu	<i>Daucus littoralis</i>	LC	-	-
Tüylü karanfil	<i>Dianthus armeria subsp. armeria</i>	-	-	-
Al karanfil	<i>Dianthus cibrarius</i>	-	-	E
Deve karanfili	<i>Dianthus giganteus</i>	-	-	-
Arıkovanı	<i>Digitalis ferruginea subsp. ferruginea</i>	-	-	-
Yüksükotu	<i>Digitalis lamarckii</i>	-	-	E
Kızıl çatalotu	<i>Digitaria sanguinalis</i>	-	-	-
Dolanbaç	<i>Dioscorea communis</i>	LC	-	-
Küçük meyveli	<i>Diospyros lotus</i>	LC	-	-
Fesçitarağı	<i>Dipsacus laciniatus</i>	-	-	-
Kaplanotu	<i>Doronicum orientale</i>	-	-	-
Ak kaplanotu	<i>Dorycnium graecum</i>	-	-	-
Kıllı kaplanotu	<i>Dorycnium hirsutum</i>	-	-	-
Kaplanotu	<i>Dorycnium pentaphyllum subsp. anatolicum</i>	-	-	-
Zehirli yonca	<i>Dorycnium pentaphyllum subsp. herbaceum</i>	-	-	-
Ak dolama	<i>Draba muralis</i>	-	-	-
Çırçırotu	<i>Draba verna</i>	-	-	-
Darican	<i>Echinochloa crus-galli</i>	LC	-	-
Papaz kalpağı	<i>Echinops microcephalus</i>	-	-	-
Kurtkuyruğu	<i>Echium italicum</i>	-	-	-
Engerek otu	<i>Echium vulgare subsp. vulgare</i>	-	-	-
Çıçırgan	<i>Elaeagnus rhamnoides</i>	LC	-	-
Delisaz	<i>Eleocharis palustris</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Putao tu	<i>Elymus elongatus subsp. elongatus</i>	-	-	-
Hasanhüseyin çiçeği	<i>Epilobium hirsutum</i>	LC	-	-
Iraz yakiotu	<i>Epilobium parviflorum</i>	LC	-	-
Ezberyakısı	<i>Epilobium tetragonum subsp. tetragonum</i>	-	-	-
Tekeotu	<i>Epimedium pubigerum</i>	-	-	-
Bindallıçiçeği	<i>Epipactis helleborine subsp. helleborine</i>	LC	-	-
Atkuyruğu	<i>Equisetum arvense</i>	LC	-	-
Kırk kilitotu	<i>Equisetum giganteum</i>	LC	-	-
Kırkbacak	<i>Equisetum palustre</i>	LC	-	-
Deredoruk	<i>Equisetum telmateia</i>	LC	-	-
Funda	<i>Erica arborea</i>	LC	-	-
Leylekgagası	<i>Erodium acaule</i>	-	-	-
İğnelik	<i>Erodium cicutarium subsp. cicutarium</i>	-	-	-
Dönbaba	<i>Erodium malacoides</i>	-	-	-
Kırsenet	<i>Eryngium campestre</i>	-	-	-
Göz dikenli	<i>Eryngium creticum</i>	-	-	-
Çatal zarife	<i>Erysimum repandum</i>	-	-	-
Koyunpıtrağı	<i>Eupatorium cannabinum</i>	-	-	-
Zerana	<i>Euphorbia amygdaloides subsp. amygdaloides</i>	-	-	-
Güdük sütleğen	<i>Euphorbia exigua subsp. exigua</i>	-	-	-
Feribanotu	<i>Euphorbia helioscopia subsp. helioscopia</i>	-	-	-
Su sütleğeni	<i>Euphorbia palustris</i>	LC	-	-
Kıyı sütleğeni	<i>Euphorbia peplis</i>	-	-	-
Bahçe sütleğeni	<i>Euphorbia peplus var. peplus</i>	-	-	-
Tasmaotu	<i>Euphorbia seguieriana</i>	-	-	-
Ekin sütleğeni	<i>Euphorbia seguieriana subsp. niciciana</i>	-	-	-
Tasmaotu	<i>Euphorbia seguieriana subsp. seguieriana</i>	-	-	-
Hemşin sütleğeni	<i>Euphorbia squamosa</i>	-	-	-
Katı sütleğen	<i>Euphorbia stricta</i>	-	-	-
Göz otu	<i>Euphrasia pectinata</i>	-	-	-
Kayın	<i>Fagus orientalis</i>	LC	-	-
Günlükotu	<i>Ferulago confusa</i>	-	-	-
Sarı çakşır	<i>Ferulago thirkeana</i>	-	-	E
Çalı yumağı	<i>Festuca drymeja</i>	-	-	-
İncir	<i>Ficus carica subsp. carica</i>	LC	-	-
Deli keçeotu	<i>Filago eriocephala</i>	-	-	-
Çayır melikesi	<i>Filipendula vulgaris</i>	LC	-	-
Barut ağacı	<i>Frangula dodonei subsp. dodonei</i>	-	-	-
Anadolu dişbudağı	<i>Fraxinus angustifolia subsp. oxycarpa</i>	-	-	-
Eğri lâle	<i>Fritillaria pontica</i>	LC	-	-
Şahtere	<i>Fumaria officinalis subsp. officinalis</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Boğazkardeleni	<i>Galanthus plicatus subsp. plicatus</i>	LC	-	-
Keçisedefi	<i>Galega officinalis</i>	LC	-	-
Gür iplikçik	<i>Galium album subsp. pycnotrichum</i>	-	-	-
Çobansüzgeci	<i>Galium aparine</i>	LC	-	-
Çalıplikçiği	<i>Galium fissurense</i>	-	-	E
Çalı iplikçiği	<i>Galium lovcense</i>	-	-	-
Su iplikçiği	<i>Galium palustre</i>	LC	-	-
Gök iplikçik	<i>Galium paschale</i>	-	-	-
Boyalık	<i>Galium verum subsp. verum</i>	LC	-	-
Kırtıl çalısı	<i>Genista carinalis</i>	-	-	-
Boyacı katırtırnağı	<i>Genista tinctoria</i>	-	-	-
Yaramerhemi	<i>Geranium asphodeloides subsp. asphodeloides</i>	-	-	-
Güvercin ıtırı	<i>Geranium columbinum</i>	-	-	-
Dilimli ıtır	<i>Geranium dissectum</i>	-	-	-
Dakkaotu	<i>Geranium lucidum</i>	-	-	-
Yumuşak ıtır	<i>Geranium molle</i>	-	-	-
Ebedön	<i>Geranium purpureum</i>	-	-	-
Gelinçarşafı	<i>Geranium pyrenaicum</i>	-	-	-
Dağ ıtırı	<i>Geranium robertianum</i>	-	-	-
Helilok	<i>Geranium rotundifolium</i>	-	-	-
Meryemotu	<i>Geum urbanum</i>	LC	-	-
Gavur haşhaşı	<i>Glaucium leiocarpum</i>	-	-	-
Meyan	<i>Glycyrrhiza glabra</i>	LC	-	-
Kara sarmaşığı	<i>Hedera colchica</i>	-	-	-
Duvar sarmaşığı	<i>Hedera helix</i>	LC	-	-
Akrep otu	<i>Heliotropium europaeum</i>	-	-	-
Çöpleme	<i>Helleborus orientalis</i>	-	-	-
Devesil	<i>Heracleum sphondylium subsp. ternatum</i>	-	-	-
Deli yaran	<i>Herniaria hirsuta</i>	-	-	-
Kabayaran	<i>Herniaria incana</i>	-	-	-
Kırk şahinotu	<i>Hieracium vagum</i>	-	-	-
Atnalı	<i>Hippocrepis unisiliquosa subsp. unisiliquosa</i>	-	-	-
Nadas turpu	<i>Hirschfeldia incana</i>	-	-	-
Kadifeotu	<i>Holcus lanatus</i>	-	-	-
Odun arpası	<i>Hordelymus europaeus</i>	-	-	-
Boncuk arpa	<i>Hordeum bulbosum</i>	LC	-	-
Mandakulağı	<i>Hylotelephium telephium</i>	-	-	-
Koyunkıran	<i>Hypericum calycinum</i>	-	-	-
Binbirdelikotu	<i>Hypericum perforatum</i>	-	-	-
Kantaron	<i>Hypericum perforatum</i>	LC	-	-
Çizgili kantaron	<i>Hypericum tetrapterum</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Işılğan	<i>Ilex colchica</i>	-	-	-
Kaya yolotu	<i>Inula aschersoniana</i>	-	-	-
Gölge andız otu	<i>Inula conyzae</i>	-	-	-
Ekin andızotu	<i>Inula germanica</i>	-	-	-
Deli sarıot	<i>Inula graveolens</i>	-	-	-
Su andızotu	<i>Inula salicina</i>	-	-	-
Sümenit	<i>Inula viscosa</i>	-	-	-
Aksüsen	<i>Iris albicans</i>	-	-	-
Batak süseni	<i>Iris pseudacorus</i>	LC	-	-
Boruk	<i>Jasminum fruticans</i>	-	-	-
Ceviz	<i>Juglans regia</i>	LC	-	-
Camışotu	<i>Juncus articulatus subsp. articulatus</i>	LC	-	-
Kamır	<i>Juncus bufonius</i>	LC	-	-
Hasır sazi	<i>Juncus conglomeratus</i>	LC	-	-
Kofa	<i>Juncus effusus</i>	LC	-	-
Sazak	<i>Juncus inflexus subsp. inflexus</i>	LC	-	-
Peygamberkılıcı	<i>Juncus maritimus</i>	LC	-	-
Çayır kofası	<i>Juncus thomasii</i>	-	-	-
Katran ardıcı	<i>Juniperus oxycedrus subsp. oxycedrus</i>	LC	-	-
Kafalı kuşdili	<i>Jurinea alpigena</i>	-	-	E
Geyik göbeği	<i>Jurinea consanguinea</i>	-	-	-
Yaban göbeği	<i>Jurinea mollis</i>	-	-	-
Kavotu	<i>Jurinea pontica</i>	-	-	E
Has eşekkulağı	<i>Knautia degenii</i>	-	-	-
Götürotu	<i>Knautia integrifolia var. bidens</i>	-	-	-
Deli marul	<i>Lactuca saligna</i>	LC	-	-
Eşekhelvası	<i>Lactuca serriola</i>	LC	-	-
Baltutan	<i>Lamium amplexicaule</i>	-	-	-
Meşe balıcağı	<i>Lamium galeobdolon subsp. montanum</i>	-	-	-
Mis balıcağ	<i>Lamium moschatum subsp. micranthum</i>	-	-	-
Ballıbaba	<i>Lamium purpureum var. aznavourii</i>	-	-	E
Ballıbaba	<i>Lamium purpureum var. purpureum</i>	-	-	-
Şebrek	<i>Lapsana communis subsp. intermedia var. intermedia</i>	-	-	-
Kefe kimyonu	<i>Laser trilobum</i>	-	-	-
Saçlı enguban	<i>Laserpitium hispidum</i>	-	-	-
Gizliot	<i>Lathraea squamaria</i>	-	-	-
Sarı burçak	<i>Lathyrus aphaca var. biflorus</i>	-	-	-
Korumürdümüğü	<i>Lathyrus aureus</i>	LC	-	-
Colban	<i>Lathyrus cicera</i>	LC	-	-
Kaba mürdümük	<i>Lathyrus hirsutus</i>	LC	-	-
Deli burçak	<i>Lathyrus laxiflorus subsp. laxiflorus</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Çimen burçak	<i>Lathyrus nissolia</i>	LC	-	-
Yılan gürülü	<i>Lathyrus pratensis</i>	LC	-	-
Kaya mürdümüğü	<i>Lathyrus saxatilis</i>	LC	-	-
Kara yemiş	<i>Laurocerasus officinalis</i>	LC	-	-
Defne	<i>Laurus nobilis</i>	LC	-	-
Saracak	<i>Lavatera punctata</i>	-	-	-
Eğri kadınaynası	<i>Legousia falcata</i>	-	-	-
Hoş kadınaynası	<i>Legousia speculum-veneris</i>	-	-	-
Sumercimeği	<i>Lemna minor</i>	LC	-	-
Oklu gulikazer	<i>Leontodon hispidus subsp. hastilis</i>	-	-	-
Yumrulu aslandişi	<i>Leontodon tuberosus</i>	-	-	-
Horozcuk	<i>Lepidium campestre</i>	LC	-	-
Eltete	<i>Lepidium virginicum</i>	-	-	-
Ay papatya	<i>Leucanthemum vulgare</i>	-	-	-
Göl soğanı	<i>Leucojum aestivum</i>	LC	-	-
Kurtbağrı	<i>Ligustrum vulgare</i>	-	-	-
Sultan zambağı	<i>Lilium martagon</i>	LC	-	-
Som nevrüzotu	<i>Linaria genistifolia subsp. genistifolia</i>	-	-	-
Deli keten	<i>Linum bienne</i>	-	-	-
Koru keteni	<i>Linum corymbulosum</i>	-	-	-
Yaban keten	<i>Linum nodiflorum</i>	-	-	-
Otlak keteni	<i>Linum trigynum</i>	-	-	-
Taşkesen	<i>Lithospermum arvense</i>	-	-	-
Çim	<i>Lolium perenne</i>	LC	-	-
Sert çim	<i>Lolium rigidum var. rigidum</i>	LC	-	-
Kurtluot	<i>Lotus angustissimus</i>	-	-	-
Gazal boynuzu	<i>Lotus corniculatus</i>	LC	-	-
Gazalboynuzu	<i>Lotus corniculatus var. corniculatus</i>	LC	-	-
Gazal boynuzu	<i>Lotus corniculatus var. tenuifolius</i>	-	-	-
Gevşek luzul	<i>Luzula forsteri</i>	LC	-	-
Kırk luzul	<i>Luzula multiflora subsp. multiflora</i>	-	-	-
Çayır luzulu	<i>Luzula pallescens</i>	-	-	-
Kurtayağı	<i>Lycopus europaeus</i>	LC	-	-
Yer kargaotu	<i>Lysimachia nummularia</i>	LC	-	-
Hilal kargaotu	<i>Lysimachia verticillaris</i>	-	-	-
Kargaotu	<i>Lysimachia vulgaris</i>	LC	-	-
Sivri akclarotu	<i>Lythrum junceum</i>	LC	-	-
Aklarotu	<i>Lythrum maritimum</i>	-	-	-
Hevhulma	<i>Lythrum salicaria</i>	LC	-	-
Çobançöreği	<i>Malva neglecta</i>	LC	-	-
Ebegümeçi	<i>Malva sylvestris</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Alman papatyası	<i>Matricaria chamomilla</i> var. <i>recutita</i>	-	-	-
Benli yonca	<i>Medicago arabica</i>	LC	-	-
Kart yonca	<i>Medicago falcata</i>	Data Deficient (DD)	-	-
Bitçikotu	<i>Medicago lupulina</i>	LC	-	-
Gurnik	<i>Medicago minima</i> var. <i>minima</i>	-	-	-
Paralık	<i>Medicago orbicularis</i>	LC	-	-
Kırkyonca	<i>Medicago polymorpha</i> var. <i>polymorpha</i>	-	-	-
Kırkyonca	<i>Medicago polymorpha</i> var. <i>vulgaris</i>	LC	-	-
Yonca	<i>Medicago rigidula</i>	LC	-	-
Kaba yonca	<i>Medicago rigidula</i> var. <i>rigidula</i>	LC	-	-
Karayonca	<i>Medicago sativa</i> subsp. <i>sativa</i>	LC	-	-
Ak taşyoncası	<i>Melilotus albus</i>	LC	-	-
Kokulu yonca	<i>Melilotus officinalis</i>	LC	-	-
Oğulotu	<i>Melissa officinalis</i> subsp. <i>officinalis</i>	LC	-	-
Su nanesi	<i>Mentha aquatica</i>	LC	-	-
Kıvrıcık nane	<i>Mentha spicata</i> subsp. <i>condensata</i>	-	-	-
Eşek nanesi	<i>Mentha spicata</i> subsp. <i>spicata</i>	LC	-	-
Parşen	<i>Mercurialis annua</i>	-	-	-
Muşmula	<i>Mespilus germanica</i>	LC	-	-
Giyle	<i>Microthlaspi perfoliatum</i>	-	-	-
Asi balıkağzı	<i>Misopates orontium</i>	-	-	-
Dördüz otu	<i>Moenchia mantica</i>	-	-	-
Gavurbaşı	<i>Muscari armeniacum</i>	-	-	-
Morbaş	<i>Muscari comosum</i>	-	-	-
Arapüzümü	<i>Muscari neglectum</i>	-	-	-
Kardeş boncuğu	<i>Myosotis arvensis</i> subsp. <i>arvensis</i>	-	-	-
Hüthüt gözü	<i>Myosotis laxa</i> subsp. <i>caespitosa</i>	-	-	-
Laz kuşgözü	<i>Myosotis lazica</i>	Near Threatened (NT)	-	-
Taş boncukotu	<i>Myosotis lithospermifolia</i>	-	-	-
Kuş gözü	<i>Myosotis ramosissima</i>	-	-	-
Yitik unutmabeni	<i>Myosotis stricta</i>	-	-	-
Mersin	<i>Myrtus communis</i> subsp. <i>communis</i>	LC	-	-
Su teresi	<i>Nasturtium officinale</i>	LC	-	-
Göçmen hardalı	<i>Neslia paniculata</i> subsp. <i>thracica</i>	-	-	-
Şam çörekotu	<i>Nigella damascena</i>	-	-	-
Sarı nilüfer	<i>Nuphar lutea</i>	LC	-	-
Beyaz nilüfer	<i>Nymphaea alba</i>	LC	-	-
Deli maydanoz	<i>Oenanthe pimpinelloides</i>	LC	-	-
Demirdelen	<i>Ononis spinosa</i> subsp. <i>leiosperma</i>	-	-	-

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Amasya şincarı	<i>Onosma bornmuelleri</i>	-	-	E
Yamaç emceği	<i>Onosma roussaei</i>	-	-	-
Emzik otu	<i>Onosma taurica var. taurica</i>	-	-	-
Arı salebi	<i>Ophrys apifera</i>	LC	-	-
Kedikulağı	<i>Ophrys mammosa subsp. mammosa</i>	LC	-	-
Tavşan salebi	<i>Ophrys sphegodes</i>	LC	-	E
Dildamak	<i>Orchis anatolica</i>	LC	-	-
Pirinççiçeği	<i>Orchis coriophora subsp. coriophora</i>	LC	-	-
Salep sümbülü	<i>Orchis laxiflora subsp. laxiflora</i>	LC	-	-
Çayır salebi	<i>Orchis palustris</i>	LC	-	-
Salep püskülü	<i>Orchis simia</i>	LC	-	-
Katranalacası	<i>Orchis tridentata</i>	LC	-	-
Kuş zemulu	<i>Origanum vulgare</i>	LC	-	-
Kara mercan	<i>Origanum vulgare subsp. hirtum</i>	-	-	-
İstanbul kekiği	<i>Origanum vulgare subsp. viridulum</i>	-	-	-
Kara kınık	<i>Origanum vulgare subsp. vulgare</i>	LC	-	-
Ak yıldız	<i>Ornithogalum alpigenum</i>	-	-	E
Göze sasal	<i>Ornithogalum comosum</i>	-	-	-
Kirpi sasal	<i>Ornithogalum fimbriatum</i>	-	-	-
Dağ akyıldızı	<i>Ornithogalum montanum</i>	-	-	-
Akbaldır	<i>Ornithogalum narbonense</i>	-	-	-
Bayır yıldızı	<i>Ornithogalum orthophyllum</i>	-	-	-
Eşek susamı	<i>Ornithogalum pyrenaicum</i>	-	-	-
Sakarca	<i>Ornithogalum sigmoideum</i>	-	-	-
Salkım sakarca	<i>Ornithogalum sphaerocarpum</i>	-	-	-
Sunbala	<i>Ornithogalum umbellatum</i>	-	-	-
Engin yıldız	<i>Ornithogalum wiedemannii</i>	-	-	-
Kuş ayağı	<i>Ornithopus compressus</i>	-	-	-
Kokulu süpürgeotu	<i>Orobanche caryophyllacea</i>	-	-	-
Deli yergöbeği	<i>Orobanche cernua</i>	-	-	-
Göveotu	<i>Orobanche minor</i>	-	-	-
Veremotu	<i>Orobanche nana</i>	-	-	-
Kazıkotu	<i>Orobanche oxyloba</i>	-	-	-
Narin canavarotu	<i>Orobanche ramosa</i>	-	-	-
Firek	<i>Ostrya carpinifolia</i>	LC	-	-
Morcak	<i>Osyris alba</i>	-	-	-
Ekşi yonca	<i>Oxalis acetosella</i>	-	-	-
Sarı ekşiyonca	<i>Oxalis corniculata</i>	-	-	-
Karaçalı	<i>Paliurus spina-christi</i>	-	-	-
Köpekyacağı	<i>Papaver dubium</i>	-	-	-
Zemberlik	<i>Papaver gracile</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Gelincik	<i>Papaver rhoeas</i>	LC	-	-
Üçdilolu	<i>Parentucellia latifolia subsp. latifolia</i>	-	-	-
Duvar fesleğeni	<i>Parietaria judaica</i>	-	-	-
Yalan darısı	<i>Paspalum distichum</i>	LC	-	-
Şeker havucu	<i>Pastinaca sativa subsp. urens</i>	-	-	-
Gariplerurganı	<i>Periploca graeca var. graeca</i>	-	-	-
Kabalak	<i>Petasites hybridus</i>	LC	-	-
Zarkaranfil	<i>Petrorhagia dubia</i>	-	-	-
Şimal zarçiçeği	<i>Petrorhagia saxifraga</i>	-	-	-
Topuzlu kanyaş	<i>Phalaris paradoxa</i>	LC	-	-
Akçakesme	<i>Phillyrea latifolia</i>	LC	-	-
Kumul itkuyruğu	<i>Phleum bertolonii</i>	-	-	-
Meşe itkuyruğu	<i>Phleum exaratum subsp. exaratum</i>	-	-	-
Tel itkuyruğu	<i>Phleum subulatum subsp. subulatum</i>	-	-	-
Kamış	<i>Phragmites australis</i>	LC	-	-
Güvey feneri	<i>Physalis alkekengi</i>	LC	-	-
Şekerciboyası	<i>Phytolacca americana</i>	-	-	-
Daz tırnakotu	<i>Pilosella piloselloides subsp. magyarica</i>	-	-	-
Kulak tırnakotu	<i>Pilosella x auriculoides</i>	-	-	-
Çöğre	<i>Pistacia palaestina</i>	-	-	-
Ateşyaprağı	<i>Plantago afra</i>	LC	-	-
Boğaotu	<i>Plantago coronopus subsp. coronopus</i>	-	-	-
Kırkdamarotu	<i>Plantago lagopus</i>	-	-	-
Sinirotu	<i>Plantago major subsp. major</i>	LC	-	-
Guguk salebi	<i>Platanthera bifolia</i>	LC	-	-
Çarpık salep	<i>Platanthera chlorantha</i>	LC	-	-
Dar salkımotu	<i>Poa angustifolia</i>	LC	-	-
Salkımotu	<i>Poa annua</i>	LC	-	-
Yumrulu salkım	<i>Poa bulbosa</i>	-	-	-
Çayır salkımotu	<i>Poa pratensis</i>	LC	-	-
Kaba salkımotu	<i>Poa trivialis</i>	-	-	-
Yılan yoncası	<i>Polygala anatolica</i>	-	-	-
Sütotu	<i>Polygala supina</i>	-	-	-
Köyotu	<i>Polygonum aviculare</i>	LC	-	-
Tirşon	<i>Polygonum lapathifolium</i>	LC	-	-
Söğütotu	<i>Polygonum persicaria</i>	LC	-	-
Kızıl pilunç	<i>Polystichum setiferum</i>	LC	-	-
Kavak	<i>Populus alba</i>	LC	-	-
Akkavak	<i>Populus alba var. alba</i>	LC	-	-
Titrek kavak	<i>Populus tremula subsp. tremula</i>	LC	-	-
Suotu	<i>Potamogeton natans</i>	LC	-	-

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Yıldız parmakotu	<i>Potentilla astracanica subsp. astracanica</i>	-	-	-
Sivri parmakotu	<i>Potentilla calabra</i>	-	-	-
Eğri parmakotu	<i>Potentilla inclinata</i>	-	-	-
Cüce parmakotu	<i>Potentilla micrantha</i>	-	-	-
Su parmakotu	<i>Potentilla recta</i>	-	-	-
Reşatinotu	<i>Potentilla reptans</i>	-	-	-
Evvelbahar çiçeği	<i>Primula acaulis subsp. rubra</i>	-	-	-
Bodur fesleğen	<i>Prunella laciniata</i>	-	-	-
Gelinciklemeotu	<i>Prunella vulgaris</i>	LC	-	-
Yunus eriği	<i>Prunus divaricata var. divaricata</i>	-	-	-
Çakal eriği	<i>Prunus spinosa</i>	LC	-	-
Erik	<i>Prunus x domestica</i>	-	-	-
Eğrelti	<i>Pteridium aquilinum</i>	LC	-	-
Kaba tuzçimi	<i>Puccinellia gigantea</i>	-	-	-
Yaraotu	<i>Pulicaria dysenterica subsp. dysenterica</i>	-	-	-
Ak yaraotu	<i>Pulicaria vulgaris</i>	LC	-	-
Sarıberdi	<i>Pycnus flavidus var. flavidus</i>	LC	-	-
Ateş dikenli	<i>Pyracantha coccinea</i>	-	-	-
Bey armudu	<i>Pyrus communis subsp. caucasica</i>	-	-	-
Bey armudu	<i>Pyrus communis subsp. communis</i>	-	-	-
Ahlat	<i>Pyrus elaeagnifolia subsp. elaeagnifolia</i>	-	-	-
Saçlı meşe	<i>Quercus cerris</i>	LC	-	-
Macar meşesi	<i>Quercus frainetto</i>	LC	-	-
Istranca meşesi	<i>Quercus hartwissiana</i>	DD	-	-
Pırnal meşesi	<i>Quercus ilex</i>	LC	-	-
Sapsız meşe	<i>Quercus petraea</i>	LC	-	-
Ballık meşesi	<i>Quercus petraea subsp. iberica</i>	-	-	-
Tüylü meşe	<i>Quercus pubescens subsp. pubescens</i>	LC	-	-
Saplı meşe	<i>Quercus robur subsp. robur</i>	LC	-	-
Mustafaçiçeği	<i>Ranunculus arvensis</i>	-	-	-
Kâğıthane çiçeği	<i>Ranunculus constantinopolitanus</i>	-	-	-
Arpacıksalebi	<i>Ranunculus ficaria subsp. ficariiformis</i>	-	-	-
Narin yağçiçeği	<i>Ranunculus gracilis</i>	-	-	-
Kutsaldefne	<i>Ranunculus muricatus</i>	-	-	-
Çiçeğezer	<i>Ranunculus neapolitanus</i>	-	-	-
Çamur yağotu	<i>Ranunculus ophioglossifolius</i>	LC	-	-
Koyuntüçgülü	<i>Ranunculus paludosus</i>	-	-	-
Tiktakdana	<i>Ranunculus repens</i>	LC	-	-
Batak düğünçiçeği	<i>Ranunculus sceleratus</i>	LC	-	-
Eşek turpu	<i>Raphanus raphanistrum</i>	LC	-	-
Kedi turpu	<i>Rapistrum rugosum</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Muhabetçiçeği	<i>Reseda lutea</i>	-	-	-
Çatlakçanak	<i>Rhagadiolus stellatus</i>	-	-	-
Kumar	<i>Rhododendron ponticum</i>	-	-	-
Fil burnu	<i>Rhynchocorys elephas subsp. elephas</i>	-	-	-
Hintyağı	<i>Ricinus communis</i>	-	-	-
Çakandura	<i>Rorippa sylvestris subsp. sylvestris</i>	LC	-	-
Kuşburnu	<i>Rosa canina</i>	LC	-	-
Gagaotu	<i>Rostraria cristata var. glabriflora</i>	-	-	-
Yabani kökboya	<i>Rubia peregrina</i>	-	-	-
Çobankösteği	<i>Rubus canescens var. canescens</i>	-	-	-
Tüntürük	<i>Rubus hirtus</i>	-	-	-
Böğürtlen	<i>Rubus sanctus</i>	-	-	-
Kuzukulağı	<i>Rumex acetosella</i>	LC	-	-
Ekşikulak	<i>Rumex conglomeratus</i>	LC	-	-
Labada	<i>Rumex crispus</i>	LC	-	-
Kökükızıl	<i>Rumex obtusifolius subsp. subalpinus</i>	-	-	-
Tosbağakulağı	<i>Rumex palustris</i>	LC	-	-
Ekşilik	<i>Rumex pulcher</i>	LC	-	-
Tavşanmemesi	<i>Ruscus aculeatus</i>	LC	-	-
Atdili	<i>Ruscus hypoglossum</i>	LC	-	-
Suoku	<i>Sagittaria sagittifolia</i>	LC	-	-
Aksöğüt	<i>Salix alba</i>	LC	-	-
Ak söğüt	<i>Salix alba subsp. alba</i>	LC	-	-
Keçi söğüdü	<i>Salix caprea</i>	LC	-	-
Kum döngelesi	<i>Salsola tragus</i>	-	-	-
Ekin şalbası	<i>Salvia amplexicaulis</i>	-	-	-
Dolma yaprağı	<i>Salvia forskahlei</i>	-	-	-
Çanak şalbası	<i>Salvia pinnata</i>	-	-	-
Paskulak	<i>Salvia sclarea</i>	LC	-	-
Şalba	<i>Salvia tomentosa</i>	LC	-	-
Elmakekiği	<i>Salvia verbenaca</i>	-	-	-
Dadırak	<i>Salvia verticillata subsp. verticillata</i>	-	-	-
Fatmanaotu	<i>Salvia virgata</i>	-	-	-
Zarif şalba	<i>Salvia viridis</i>	-	-	-
Ağaç mürver	<i>Sambucus nigra</i>	LC	-	-
Sanikel	<i>Sanicula europaea</i>	LC	-	-
Çibriska	<i>Satureja hortensis</i>	DD	-	-
Sarı taşkıran	<i>Saxifraga cymbalaria</i>	-	-	-
Benli taşkıran	<i>Saxifraga rotundifolia</i>	-	-	-
Mor uyuzotu	<i>Scabiosa atropurpurea</i>	-	-	-
Sarı uyuzotu	<i>Scabiosa columbaria</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Sarı uyuzotu	<i>Scabiosa columbaria</i> subsp. <i>Columbaria</i> var. <i>columbaria</i>	-	-	-
Sarı uyuzotu	<i>Scabiosa columbaria</i> subsp. <i>ochroleuca</i> var. <i>webbiana</i>	-	-	-
Zühretarağı	<i>Scandix pecten-veneris</i>	-	-	-
Kanton	<i>Schenkia spicata</i>	-	-	-
Göl semereotu	<i>Schoenoplectus litoralis</i> subsp. <i>litoralis</i>	LC	-	-
Orman sümbülü	<i>Scilla bifolia</i>	LC	-	-
Boncuk sümbülü	<i>Scilla bithynica</i>	-	-	-
Şevketibostan	<i>Scolymus hispanicus</i> subsp. <i>hispanicus</i>	-	-	-
İt sıracaotu	<i>Scrophularia canina</i> subsp. <i>bicolor</i>	-	-	-
Elköpürten	<i>Scrophularia scopolii</i> var. <i>scopolii</i>	-	-	-
Sukestereotu	<i>Scrophularia umbrosa</i>	LC	-	-
Akkaside	<i>Scutellaria albida</i>	-	-	-
Akkaside	<i>Scutellaria albida</i> subsp. <i>albida</i>	-	-	-
Su kasidesi	<i>Scutellaria galericulata</i>	LC	-	-
Çavdar	<i>Secale cereale</i> var. <i>cereale</i>	NA	-	-
Kanca körişen	<i>Securigera securidaca</i>	-	-	-
Çobankavurgası	<i>Sedum album</i>	-	-	-
Koyunörmece	<i>Sedum pallidum</i>	-	-	-
Tarla kanaryaotu	<i>Senecio aquaticus</i> subsp. <i>erraticus</i>	-	-	-
kanaryaotu	<i>Senecio vernalis</i>	-	-	-
Taşakçilotu	<i>Senecio vulgaris</i>	-	-	-
Ak bozkıryumağı	<i>Sesleria alba</i>	LC	-	-
Sıçansaçı	<i>Setaria glauca</i>	-	-	-
Arnavut darısı	<i>Setaria verticillata</i> var. <i>ambigua</i>	-	-	-
Yeşil sıçansaçı	<i>Setaria viridis</i>	-	-	-
Gökörenotu	<i>Sherardia arvensis</i>	-	-	-
Karaçay	<i>Sideritis montana</i> subsp. <i>montana</i>	-	-	-
Kanlıbasıra otu	<i>Silene compacta</i>	-	-	-
Sivri nakıl	<i>Silene conica</i>	-	-	-
Salkım nakıl	<i>Silene dichotoma</i> subsp. <i>racemosa</i>	-	-	-
Serçeçeği	<i>Silene gallica</i>	-	-	-
Ecibücü	<i>Silene vulgaris</i>	LC	-	-
Ecibücü	<i>Silene vulgaris</i> var. <i>macrocarpa</i>	-	-	-
Ecibücü	<i>Silene vulgaris</i> var. <i>vulgaris</i>	LC	-	-
Devedikeni	<i>Silybum marianum</i> subsp. <i>marianum</i>	LC	-	-
Ergelen otu	<i>Sisymbrium altissimum</i>	-	-	-
Ergelen hardalı	<i>Sisymbrium officinale</i>	LC	-	-
Tarla bülbülotu	<i>Sisymbrium orientale</i>	-	-	-
Dikenucu	<i>Smilax excelsa</i>	-	-	-
Eceavlusı	<i>Solanum decipiens</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Sofur	<i>Solanum dulcamara</i>	LC	-	-
Altınbaşak çiçeği	<i>Solidago virgaurea subsp. virgaurea</i>	-	-	-
Gevirtlek	<i>Sonchus asper subsp. glaucescens</i>	-	-	-
Kuzugevreği	<i>Sonchus oleraceus</i>	-	-	-
Acımeyan	<i>Sophora alopecuroides var. alopecuroides</i>	-	-	-
Çelepen	<i>Sophora jaubertii</i>	-	-	-
Ekin süpürgesi	<i>Sorghum halepense var. halepense</i>	-	-	-
Katırtırnağı	<i>Spartium junceum</i>	-	-	-
Remilotu	<i>Spergularia rubra</i>	-	-	-
İnci salebi	<i>Spiranthes spiralis</i>	LC	-	-
Hacıosman otu	<i>Stachys annua subsp. annua var. lycaonica</i>	-	-	-
Boz karabaş	<i>Stachys byzantina</i>	-	-	-
Yağlıkara	<i>Stachys cretica subsp. anatolica</i>	-	-	E
Kıl karabaş	<i>Stachys spinulosa</i>	-	-	-
Ham ısırgan	<i>Stachys sylvatica</i>	-	-	-
Kestere	<i>Stachys thirkei</i>	-	-	-
Ağızlık çalısı	<i>Staphylea pinnata</i>	LC	-	-
Urgancık	<i>Stellaria holostea</i>	-	-	-
Kuşotu	<i>Stellaria media</i>	LC	-	-
Ayıfındığı	<i>Styrax officinalis</i>	LC	-	-
Gezik	<i>Tamarix tetrandra</i>	LC	-	-
Beyaz papatya	<i>Tanacetum parthenium</i>	LC	-	-
Dişlek pireotu	<i>Tanacetum poteriifolium</i>	-	-	-
Karaağcak	<i>Taraxacum minimum</i>	-	-	-
Kısamahmut	<i>Teucrium chamaedrys</i>	LC	-	-
Kısamahmut	<i>Teucrium chamaedrys subsp. chamaedrys</i>	LC	-	-
İspir sıcakotu	<i>Teucrium chamaedrys subsp. sypireense</i>	-	-	-
Acıyavşan	<i>Teucrium polium</i>	-	-	-
Çayır sedefi	<i>Thalictrum lucidum</i>	-	-	-
Ekin dağarcığı	<i>Thlaspi arvense</i>	-	-	-
Aş kekiği	<i>Thymus longicaulis subsp. longicaulis</i>	-	-	-
Dercikotu	<i>Torilis arvensis subsp. arvensis</i>	-	-	-
Şeytanhavucu	<i>Torilis arvensis subsp. neglecta</i>	-	-	-
Mor dercikotu	<i>Torilis arvensis subsp. purpurea</i>	-	-	-
Boncuklu dercikotu	<i>Torilis nodosa</i>	-	-	-
Kaldirik	<i>Trachystemon orientalis</i>	-	-	-
Helevan	<i>Tragopogon porrifolius subsp. longirostris</i>	-	-	-
Sarı salsifin	<i>Tragopogon pratensis subsp. orientalis</i>	-	-	-
Su kestanesi	<i>Trapa natans</i>	LC	ANNEX-I	-
Nefel	<i>Trifolium angustifolium</i>	LC	-	-
Üç gül	<i>Trifolium arvense</i>	LC	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Tavşanayağı	<i>Trifolium arvense</i> var. <i>arvense</i>	LC	-	-
Üçgül	<i>Trifolium campestre</i>	-	-	-
Çilek üçgülü	<i>Trifolium fragiferum</i> var. <i>pulchellum</i>	-	-	-
Yumak yonca	<i>Trifolium globosum</i>	-	-	-
Deli yonca	<i>Trifolium hirtum</i>	-	-	-
Melez üçgül	<i>Trifolium hybridum</i> var. <i>hybridum</i>	LC	-	-
Köse yonca	<i>Trifolium medium</i> var. <i>ericalycinum</i>	-	-	-
Yel üçgülü	<i>Trifolium nigrescens</i> subsp. <i>petrisavii</i>	-	-	-
Çayır yoncası	<i>Trifolium phleoides</i>	-	-	-
Çayır üçgülü	<i>Trifolium pratense</i>	LC	-	-
Çayır üçgülü	<i>Trifolium pratense</i> var. <i>pratense</i>	LC	-	-
Çayır üçgülü	<i>Trifolium pratense</i> var. <i>sativum</i>	-	-	-
Anadolu üçgülü	<i>Trifolium resupinatum</i> var. <i>resupinatum</i>	LC	-	-
Hıyar dücük	<i>Trifolium scabrum</i>	LC	-	-
Deli dirfil	<i>Trifolium uniflorum</i> subsp. <i>uniflorum</i>	LC	-	-
Ekmeklik buğday	<i>Triticum aestivum</i>	-	-	-
Öksürükotu	<i>Tussilago farfara</i>	LC	-	-
Saz	<i>Typha angustifolia</i>	LC	-	-
Şeytanmumu	<i>Typha domingensis</i>	LC	-	-
Cil	<i>Typha latifolia</i>	LC	-	-
Dağ karaağacı	<i>Ulmus glabra</i>	DD	-	-
Hercai karaağaç	<i>Ulmus laevis</i>	DD	-	-
Ova karağacı	<i>Ulmus minor</i>	DD	-	-
Acıyemlik	<i>Urospermum picroides</i>	-	-	-
Durgun sumiğferi	<i>Utricularia australis</i>	LC	-	-
Likarba	<i>Vaccinium arctostaphylos</i>	DD	ANNEX-I	-
Koca sığırkuyruğu	<i>Verbascum bithynicum</i>	-	-	E
Tutan sığırkuyruğu	<i>Verbascum blattaria</i>	-	-	-
Yünlü sığırkuyruğu	<i>Verbascum lasianthum</i>	-	-	-
Arsız sığırkuyruğu	<i>Verbascum pyramidatum</i>	-	-	-
Sülün sığırkuyruğu	<i>Verbascum xanthophoeniceum</i>	-	-	-
Mine çiçeği	<i>Verbena officinalis</i>	LC	-	-
Sugedemesi	<i>Veronica anagallis-aquatica</i>	LC	-	-
Ekin mavişi	<i>Veronica arvensis</i>	-	-	-
Mavişot	<i>Veronica beccabunga</i>	LC	-	-
Cancan	<i>Veronica chamaedrys</i>	-	-	-
Venüsçiçeği	<i>Veronica cymbalaria</i>	-	-	-
Tel maviş	<i>Veronica filiformis</i>	-	-	-
Baharmavisi	<i>Veronica hederifolia</i>	-	-	-
Devesabunu	<i>Veronica multifida</i>	-	-	-
Tarak mavişi	<i>Veronica pectinata</i> var. <i>pectinata</i>	-	-	-

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Cırcamuk	<i>Veronica persica</i>	-	-	-
Güzel nane	<i>Veronica serpyllifolia</i>	LC	-	-
Diri fiğ	<i>Vicia cassubica</i>	LC	-	-
Yabani fiğ	<i>Vicia cracca</i>	-	-	-
Gülçine	<i>Vicia cracca subsp. cracca</i>	LC	-	-
Kuş fiği	<i>Vicia cracca subsp. gerardii</i>	-	-	-
Meşe fiği	<i>Vicia cracca subsp. stenophylla</i>	-	-	-
Ege baklası	<i>Vicia cuspidata</i>	LC	-	-
Çamfiği	<i>Vicia lathyroides</i>	LC	-	-
Sarı bakla	<i>Vicia lutea var. hirta</i>	-	-	-
Telbakla	<i>Vicia meyeri</i>	-	-	-
Ekin fiği	<i>Vicia sativa subsp. incisa var. cordata</i>	-	-	-
Ekin fiği	<i>Vicia sativa subsp. nigra var. nigra</i>	LC	-	-
Eşek gürlüğü	<i>Vicia sativa subsp. nigra var. segetalis</i>	LC	-	-
Kırk bakla	<i>Vicia tetrasperma</i>	-	-	-
Pervane çiçeği	<i>Vinca major subsp. hirsuta</i>	-	-	-
Meşe menekşesi	<i>Viola alba subsp. dehnhardtii</i>	-	-	-
Yabani menekşe	<i>Viola kitaibeliana</i>	-	-	-
Kokulu menekşe	<i>Viola odorata</i>	LC	-	-
Çayır menekşesi	<i>Viola sieheana</i>	-	-	-
Hercai menekşe	<i>Viola tricolor</i>	LC	-	-
Kum kirpikliçimi	<i>Vulpia fasciculata</i>	-	-	-
Arsız kirpikliçim	<i>Vulpia myuros</i>	-	-	-
Pıtrak	<i>Xanthium spinosum</i>	-	-	-
Deli kağıtçiçeği	<i>Xeranthemum cylindraceum</i>	-	-	-

Fauna Species (Amphibians)

Turkish Name	Scientific Name	IUCN	BERN	Endemism
Siğilli Kurbağa	<i>Bufo bufo</i>	LC	ANNEX-III	-
Ağaç Kurbağası	<i>Hyla orientalis</i>	LC	ANNEX-II	-
Şeritli Karadeniz Semenderi	<i>Ommatotriton ophryticus</i>	NT	ANNEX-III	-
Ova Kurbağası	<i>Pelophylax ridibundus</i>	LC	ANNEX-III	-

Fauna Species (Reptiles)

Turkish Name	Scientific Name	IUCN	BERN	Endemism	MoAF
Yılan kertenkele	<i>Anguis fragilis</i>	LC	ANNEX-III	-	+
Avusturya yılanı	<i>Coronella austriaca</i>	LC	ANNEX -II	-	+
Trabzon kertenkelesi	<i>Darevskia rudis</i>	LC	ANNEX -III	-	+
Hazer yılanı	<i>Dolichophis caspius</i>	LC	ANNEX -III	-	+
Benekli Kaplumbağa	<i>Emys orbicularis</i>	NT	ANNEX -II	-	+
Yeşil kertenkele	<i>Lacerta viridis</i>	LC	ANNEX -II	-	+

Turkish Name	Scientific Name	IUCN	BERN	Endemism	MoAF
Çizgili Kaplumbağa	<i>Mauremys rivulata</i>	LC	ANNEX -III	-	+
Şeritli engerek	<i>Montivipera xanthina</i>	LC	ANNEX -II	-	+
Yarı sucul yılan	<i>Natrix natrix</i>	LC	ANNEX -III	-	+
Su yılanı	<i>Natrix tessellata</i>	LC	ANNEX -II	-	+
Duvar kertenkelesi	<i>Podarcis muralis</i>	LC	ANNEX -II	-	+
Oluklu kertenkele	<i>Pseudopus apodus</i>	LC	ANNEX -II	-	+
Tosbağa	<i>Testudo graeca</i>	Vulnerable (VU)	ANNEX -II	-	+
Eskülap yılanı	<i>Zamenis longissimus</i>	LC	ANNEX -II	-	+

Fauna Species (Mammals)

Turkish Name	Scientific Name	IUCN	BERN	MoAF	Endemism	MAKK
Sarıboyunlu Ormanfareşi	<i>Apodemus flavicollis</i>	LC	-	-	-	-
Dağ Fareşi	<i>Apodemus sylvaticus</i>	LC	-	-	-	-
Çakal	<i>Canis aureus</i>	LC	-	-	-	ANNEX -2
Karaca	<i>Capreolus capreolus</i>	LC	ANNEX-III	+	-	-
Küçük Beyazdişli Böcekçil	<i>Crocidura suaveolens</i>	LC	ANNEX-III	+	-	-
Kirpi	<i>Erinaceus concolor</i>	LC	-	+	-	-
Yaban Kedisi	<i>Felis silvestris</i>	LC	ANNEX -II	+	-	-
Yabani Tavşan	<i>Lepus europaeus</i>	LC	ANNEX -III	-	-	ANNEX -2
Susamuru	<i>Lutra lutra</i>	NT	ANNEX -II	+	-	-
Kaya Sansarı	<i>Martes foina</i>	LC	ANNEX -III	-	-	ANNEX -1
Porsuk	<i>Meles meles</i>	LC	ANNEX -III	-	-	ANNEX -1
Evfaresi	<i>Mus domesticus</i>	LC	-	-	-	-
Gelincik	<i>Mustela nivalis</i>	LC	ANNEX -III	-	-	ANNEX -1


Fauna Species (Birds)

Turkish Name	Scientific Name	Turkish Name	Scientific Name	IUCN	BERN	MoAF
Atmaca	<i>Accipiter nisus</i>	LC	ANNEX-III	+	-	-
Saz Kamışçını	<i>Acrocephalus scirpaceus</i>	LC	ANNEX-III	+	-	-
Dere düdükçünü	<i>Actitis hypoleucos</i>	LC	ANNEX-II	+	-	-
Uzunkuyruklu baştankara	<i>Aegithalos caudatus</i>	LC	ANNEX-III	+	-	-
Hüthüt Toygarı	<i>Alaemon alaudipes</i>	LC	ANNEX-III	+	-	-
Ebabil	<i>Apus apus</i>	LC	ANNEX-III	+	-	-
Ak Karınlı Ebabil	<i>Apus melba</i>	LC	ANNEX-II	+	-	-
Büyük akbalıkçıl	<i>Ardea alba</i>	LC	ANNEX-II	+	-	-
Külrengi balıkçıl	<i>Ardea cinerea</i>	LC	ANNEX-III	-	-	ANNEX-1
Kukumav	<i>Athene noctua</i>	LC	ANNEX-II	+	-	-
Puhu	<i>Bubo bubo</i>	LC	ANNEX-II	+	-	-


Turkish Name	Scientific Name	Turkish Name	Scientific Name	IUCN	BERN	MoAF
Şahin	<i>Buteo buteo</i>	LC	ANNEX-III	+	-	-
Kızıl şahin	<i>Buteo rufinus</i>	LC	ANNEX-III	+	-	-
Küçük kumkuşu	<i>Calidris minuta</i>	LC	ANNEX-II	+	-	-
Çobanaldatan	<i>Caprimulgus europaeus</i>	LC	ANNEX-II	+	-	-
Saka	<i>Carduelis carduelis</i>	LC	ANNEX-II	+	-	-
Çütre	<i>Carpodacus erythrinus</i>	LC	ANNEX-II	+	-	-
Boz Serçe	<i>Carpospiza brachydactyla</i>	LC	ANNEX-III	+	-	-
Florya	<i>Chloris chloris</i>	LC	ANNEX-II	+	-	-
LeylANNEX	<i>Ciconia ciconia</i>	LC	ANNEX-II	+	-	-
Kocabaş	<i>Coccothraustes coccothraustes</i>	LC	ANNEX-II	+	-	-
Kaya güvercini	<i>Columba livia</i>	LC	ANNEX-III	-	-	ANNEX-2
Gökçe güvercin	<i>Columba oenas</i>	LC	ANNEX-III	-	-	ANNEX-1
Kuzgun	<i>Corvus corax</i>	LC	ANNEX-III	-	-	ANNEX-1
Leş kargası	<i>Corvus cornix</i>	LC	-	-	-	-
ANNEXin kargası	<i>Corvus frugilegus</i>	LC	-	-	-	ANNEX-2
Küçük karga	<i>Corvus monedula</i>	LC	-	-	-	-
Guguk	<i>Cuculus canorus</i>	LC	ANNEX-III	+	-	-
Ev kırlangıcı	<i>Delichon urbicum</i>	LC	ANNEX-II	+	-	-
Orman alaca ağaçkakanı	<i>Dendrocopos major</i>	LC	ANNEX-II	+	-	-
Alaca Ağaçkakan	<i>Dendrocopos syriacus</i>	LC	ANNEX-II	+	-	-
Küçük ağaçkakan	<i>Dryobates minor</i>	LC	ANNEX-II	+	-	-
Kirazkuşu	<i>Emberiza hortulana</i>	LC	ANNEX-III	-	-	ANNEX-1
Kızılgardan	<i>Erithacus rubecula</i>	LC	ANNEX-II	+	-	-
Doğan	<i>Falco peregrinus</i>	LC	ANNEX-II	+	-	-
Kerkenez	<i>Falco tinnunculus</i>	LC	ANNEX-II	+	-	-
İspinoz	<i>Fringilla coelebs</i>	LC	ANNEX-III	-	-	ANNEX-1
Dağ ispinozu	<i>Fringilla montifringilla</i>	LC	ANNEX-III	-	-	ANNEX-1
Alakarga	<i>Garrulus glandarius</i>	LC	-	-	-	ANNEX-2
Kır kırlangıcı	<i>Hirundo rustica</i>	LC	ANNEX-II	+	-	-
Kızılsırtlı örümANNEXkuşu	<i>Lanius collurio</i>	LC	ANNEX-II	-	-	ANNEX-1
Van Gölü martı	<i>Larus michahellis</i>	LC	ANNEX-III	-	-	ANNEX-1
Orman Toygarı	<i>Lullula arborea</i>	LC	ANNEX-III	-	-	ANNEX-

Turkish Name	Scientific Name	Turkish Name	Scientific Name	IUCN	BERN	MoAF
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BenANNEXli bülbül	<i>Luscinia luscinia</i>	LC	ANNEX-II	+	-	-
Bülbül	<i>Luscinia megarhynchos</i>	LC	ANNEX-II	+	-	-
Ak Kuyruksallayan	<i>Motacilla alba</i>	LC	ANNEX-II	+	-	-
Dağ kuyruksallayanı	<i>Motacilla cinerea</i>	LC	ANNEX-II	+	-	-
BenANNEXli sinANNEXkapan	<i>Muscicapa striata</i>	LC	ANNEX-II	+	-	-
Sarıasma	<i>Oriolus oriolus</i>	LC	ANNEX-II	+	-	-
Mavi Baştankara	<i>Parus caeruleus</i>	LC	ANNEX-II	+	-	-
Büyük Baştankara	<i>Parus major</i>	LC	ANNEX-II	+	-	-
Serçe	<i>Passer domesticus</i>	LC	-	-	-	ANNEX-2
Söğüt serçesi	<i>Passer hispaniolensis</i>	LC	ANNEX-III	-	-	ANNEX-1
Ağaç serçesi	<i>Passer montanus</i>	LC	ANNEX-III	-	-	ANNEX-1
Kara kızılkuşuk	<i>Phoenicurus ochruros</i>	LC	ANNEX-II	+	-	-
Çıvgın	<i>Phylloscopus collybita</i>	LC	ANNEX-III	+	-	-
Söğütbülbülü	<i>Phylloscopus trochilus</i>	LC	ANNEX-III	+	-	-
Saksağan	<i>Pica pica</i>	LC	-	-	-	ANNEX-2
Yeşil Ağaçkakan	<i>Picus viridis</i>	LC	ANNEX-II	+	-	-
Küçük iskete	<i>Serinus serinus</i>	LC	ANNEX-II	+	-	-
Sıvacı kuşu	<i>Sitta europaea</i>	LC	ANNEX-II	+	-	-
Kumru	<i>Streptopelia decaocto</i>	LC	ANNEX-III	-	-	ANNEX-1
Üveyik	<i>Streptopelia turtur</i>	VU	ANNEX-III	-	-	ANNEX-2
Sığırcık	<i>Sturnus vulgaris</i>	LC	-	-	-	ANNEX-1
Karabağlı ötleğen	<i>Sylvia atricapilla</i>	LC	ANNEX-II	+	-	-
Boz ötleğen	<i>Sylvia borin</i>	LC	ANNEX-II	+	-	-
Çitkuşu	<i>Troglodytes troglodytes</i>	LC	ANNEX-II	+	-	-
Karataşuk	<i>Turdus merula</i>	LC	ANNEX-III	-	-	ANNEX-2
Öter ardıç	<i>Turdus philomelos</i>	LC	ANNEX-III	-	-	ANNEX-2
İbibik	<i>Upupa epops</i>	LC	ANNEX-II	+	-	-

ANNEX-6. Grievance Form

	AKCAKOCA MUNICIPALITY Project Code: Akçakoca Covered Market Rooftop Solar Power Plant Project			
	GRIEVANCE FORM			
Person Filling the Form:			Date:	
Interview Agenda:			Reference No:	
INFORMATION ABOUT THE COMPLAINANT				
Name Surname:			How to receive the complaint	
Turkish ID Number:			Phone	<input type="checkbox"/>
Phone:			Face to face	<input type="checkbox"/>
Address:			Web-site/ E-Mail	<input type="checkbox"/>
Email:			Other (Explain)	<input type="checkbox"/>
Stakeholder Type				
Public Institution <input type="checkbox"/>	Project Affected People <input type="checkbox"/>	Private Enterprise <input type="checkbox"/>	Trade Association <input type="checkbox"/>	NGO <input type="checkbox"/>
Interest Groups <input type="checkbox"/>	Industry Associations <input type="checkbox"/>	Workers' Union <input type="checkbox"/>	Media <input type="checkbox"/>	University <input type="checkbox"/>
DETAILED INFORMATION ON THE COMPLAINT				
Description of the Complaint:				
Resolution method requested by the Complainant				
Registered Person Name Surname/Signature			Complainant Name Surname/Signature	

ANNEX-7. Grievance Close-Out Form

	AKCAKOCA MUNICIPALITY Project Code: Akcakoca Covered Market Rooftop Solar Power Plant Project	
GRIEVANCE CLOSE OUT FORM		
Reference No:		
DETERMINATION OF CORRECTIVE ACTION		
1		
2		
3		
4		
5		
Responsible Departments		
CLOSE OUT THE GRIEVANCE		
<i>This section will be filled and signed by the Complainant in case the complaint stated in the "Grievance Registration Form" is resolved.</i>		
Date: /...../.....	Name Surname / Signature of the Person Closing the Complaint	Name Surname / Signature of Complainant




ANNEX-8. Grievance Register Table

No	Complaint Register Number	How Complaint is Received (Grievance Form, Community Meeting, Telephone)	Level of Grievance (Municipality/Utility Level, Regional)	Date of Complaint Received	Location of Complaint Received	Name of Person Receiving Grievance	Land Parcel # (If complaint is related to land)	Complainant Information					Project Component Related to Complaint	Grievance Category (expropriation/land acquisition related, environmental issues, damages to structures etc.)	Complaint Summary	Grievance Status (open, closed or pending)	Action Taken				Supporting Documents for Grievance Closeout (bank receipt for compensation, grievance closure protocol)
								Name/Surname	ID Number	Telephone/ email	Village-District	Gender					Responsible Person/Department	Action Planned	Due Date of the Addressing the Grievance	Date of Action Taken	
1																					



ANNEX-9. Consultation Form

	AKCAKOCA MUNICIPALITY Project Code: Akçakoca Covered Market Rooftop Solar Power Plant Project			
	CONSULTATION FORM			
Person Filling out the Form:			Date and time:	
Meeting Agenda:			Consultation Registration No:	
CONSULTATION INFORMATION				
Interviewed Institution:			Communication Type	
Name-Surname of the Interviewee:			Phone / Hotline <input type="checkbox"/>	
Phone:			Face to Face Meeting <input type="checkbox"/>	
Address:			Website / E-mail <input type="checkbox"/>	
Email:			Other (Explain) <input type="checkbox"/>	
Stakeholder Type				
Public Institution <input type="checkbox"/>	PAP <input type="checkbox"/>	Private Enterprise <input type="checkbox"/>	Professional Chamber <input type="checkbox"/>	NGO <input type="checkbox"/>
Interest Groups <input type="checkbox"/>	Industry Associations <input type="checkbox"/>	Labor Unions <input type="checkbox"/>	Media <input type="checkbox"/>	University <input type="checkbox"/>
CONSULTATION DETAILS				
Questions about the Project:				
Project concerns/feedback:				
Responses to the views expressed above:				
<i>Recorded by</i> <i>Name-Last Name/Signature</i>			<i>Complainant</i> <i>Name-Last Name/Signature</i>	



ANNEX-10. Site Photographs



Entrance of Marketplace



A View of Marketplace from the South



A View from the East of Marketplace



Rooftop of Marketplace



A Close View from the Rooftop



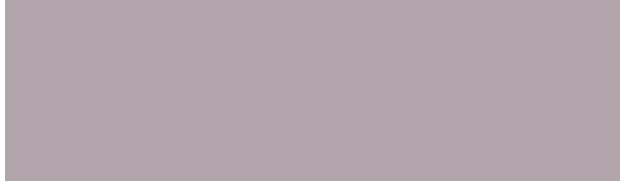
Inside the Marketplace



An Inside View of the Rooftop



Parking Lot



Keskin Street at the East



Bahadır Yalçın Avenue at the West



Hazelnut Garden



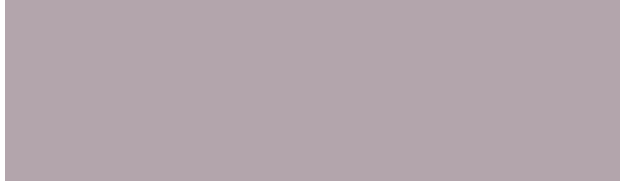
Residential and Commercial Areas Located at the West



Residential Area Located at the East



Orhan Creek



Akçakoca İmam Hatip Secondary School



Pazaryeri Mosque near the Entrance of Marketplace



Bus Station Next to the Marketplace Entrance



Provided Warning Sign to Prevent Unauthorized Access to the Rooftop



Posted Instruction on Covid-19 at the Entrance of Marketplace



Temporary Waste Storage Area and Assembly Point



ANNEX-11. Chance Find Procedure

Akçakoca Municipality

Covered Market Rooftop Solar Power Plant Project

Chance Find Procedure

1 Scope

This Chance Finds Procedure (CFP) will be implemented for the Akçakoca Municipality Covered Market Rooftop Solar Power Plant Project in order to manage any chance finds that may be encountered during the construction activities. The purpose of the CFP document is to:

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

Although there are no known archaeological sites or remains within the project area, it is considered that there may be a potential to encounter archaeological findings during the construction of the project. Activities which have high potential to lead to discover or adversely affect the archeological resources are;

- topsoil stripping
- excavation and earthworks

This CFP is prepared in order to provide information to the contractors and employees regarding the actions to be taken in case of an archaeological chance find discovery.

2 Legislation and Standards

Legislation and standards that apply to the project comprise the following:

- Word Bank Environmental and Social Standard (ESS) 8: Cultural Heritage
- applicable Turkish laws and national standards
- other commitments to and requirements of Turkish government authorities
- other industry guidelines with which the project has committed to comply

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

- all natural assets and immovable cultural assets constructed up until the end of the 19th century,
- any immovable cultural asset from after the end of the 19th century, identified by the Ministry of Culture and Tourism as an important asset worthy of preservation,
- all immovable cultural assets located within archeological sites,
- buildings/areas that have witnessed significant historical events during the National War and the foundation of the Turkish Republic and dwellings that have been used by Mustafa Kemal ATATÜRK, regardless of time and registration.

The Ministry of Culture and Tourism is the responsible body to take decisions for protection of cultural heritage in Turkey at the national level. As part of the Ministry, the High Commission for the Protection of Cultural Assets is responsible for protecting and restoring immovable cultural assets. Implementation of the decisions and regulations issued by the Ministry are undertaken by local administrations. At local level, there are Cultural Assets Protection Regional Boards defined by the Ministry of Culture and Tourism, which are responsible for preservation, registration and classification of cultural heritage within their respective jurisdictions. The relevant Regional Boards for the project is the “Istanbul 5th Cultural Assets Protection Regional Board Directorate and Istanbul 6th Cultural Assets Protection Regional Board Directorate”.

According to Law 2863, all the natural and cultural assets qualified for legal preservation are properties of the State. Therefore, regional boards have the power and authority to provide legal protection to the preservation sites and to approve or reject all the activities which have potential negative impacts on the preservation sites such as construction, demolition and excavation activities.

3 Roles and Responsibilities

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

Role	Responsibilities
Contractor - Project Manager	<ul style="list-style-type: none"> • Overall responsibility for the development, review, approval and coordination of the numerous activities required to initiate, conduct and complete construction. • Ensure that this procedure is prepared, and updated as required, based on the activities undertaken as part of the project. • Ensure that adequate resources are made available to implement the procedures and guidelines outlined in this procedure.
Contractor - Environmental and Social (E&S) Expert	<ul style="list-style-type: none"> • Initiation, development, implementation and coordination of the CFP during construction. • Ensure that adequate training is given to all site personnel and sub-contractors, covering the procedures and guidelines outlined in this procedure. Establish appropriate control procedures and conduct audits as necessary. • Consultation with and reporting to relevant government bodies in case of potential archeological chance finds. • Record all confirmed chance finds by filling up the “Chance Find Reporting Form” and maintain copies in a log-book. Ensure that the chance finds log-book is functional and up to date.
Contractor - Site Manager	<ul style="list-style-type: none"> • Day-to-day implementation of the provisions of the CFP in the field during construction. • Notify the E&S Expert regarding potential chance finds during construction.
Employees	<ul style="list-style-type: none"> • Understand and comply with archeological chance finds procedures and guidelines outlined in this procedure. • Reporting of the potential chance finds to the Site Manager.

4 Impact Avoidance and Mitigation

In the event of an archaeological discovery, the following actions will be implemented:

- All staff involved in land clearance and excavation activities will take the responsibility for managing archaeological protection and will be trained in these aspects by the E&S Expert.
- In case any potential chance find is encountered, all construction activities will cease immediately in the vicinity of the chance find.
- The Site Manager will be contacted immediately. The discovered site location, the characteristics of the potential archaeological material and photos will be recorded by the Site Manager, who in turn will inform the E&S Expert.
- Düzce Konuralp Museum Directorate will be notified at the latest within three days after the chance find is encountered. Contact details of the Düzce Konuralp Museum Directorate are given below:
Address: Konuralp Çiftelimerlar Mahallesi No: 50 Düzce
Telephone: (0380) 541 37 70
E-mail: konuralpmuzesi@ktb.gov.tr
- The site and its vicinity will be secured 24 hours a day against damage or loss, until inspection by the authority.
- The E&S Expert will fill up a “Chance Find Report Form” for each confirmed chance find and inform the Project Manager about the date that the construction work can resume, which is determined by the authorities concerning the conservation of the heritage.
- Further steps to be followed and proper plan to be implemented for the management of the finds (Changes in the layout, conservation, preservation, restoration and salvage) will be decided and reported in writing by the authorities in charge.
- Photographs of the potential artifacts that are likely to be encountered in the construction site are presented in the following pages to be used during the training of the relevant staff.

5 Verification and Monitoring

E&S Expert will record all cases of archaeological chance finds. He/she will fill up a “Chance Find Reporting Form” for each chance find confirmed by the authority and maintain copies in a logbook. A sample of a reporting form which can be used to record chance finds is included below. The chance find logbook will be summarized on an annual basis and records included in annual monitoring reports to verify that correct management procedures have been followed. Action items will be taken in cases of non-adherence to this CFP.

Akçakoca Covered Market Rooftop Solar Power Plant Project Chance Find Reporting Form	
REGISTRATION	
Name of recorder:	
Date and time of discovery:	
Site Name:	Coordinates
	X Y
Description of find:	
Photograph numbers:	
Estimated weight and dimensions:	
CONTACT PERSON	
Name/Title/Duty:	
Date and Time:	
Contact information:	
Details of conversation:	
DECISIONS	
Any protection measures to be implemented:	
Movable or immovable: If moved, please specify the new location.	
Further actions required:	
Recommence date and time:	
Notes:	
SUBMISSION	
Name:	Date:



ANNEX-12. Information Related to Stakeholder Consultation Meeting

Akçakoca Covered Market Rooftop Solar Power Plant Project Public/Stakeholder Consultation Meeting Minutes 09 January 2024

The Public/Stakeholder Consultation Meeting was conducted on 9th of January 2024 at Akçakoca Municipality Assembly Hall. The meeting was held with the participation of maximum 114 people. 88 people signed the participant list. Participants included mukthars, students, tradesmen, employees of Akçakoca Municipality and other citizens.

The meeting was announced via newspaper advertisements in Milat and Yeni Akçakoca Haber Newspapers on 5th January 2024. The meeting was also announced through flyers placed at certain locations (such as mukhtar offices, public places, shops, bus stops) by Akçakoca Municipality. Project brochures were distributed to citizens by the municipal police (zabita). Akçakoca Municipality informed all the mukhtars about the date/time and location of the planned public consultation meeting. SMS messages were sent to Akçakoca citizens for whom Akçakoca Municipality has the information of their mobile phone numbers (22,373 citizens) in order to inform them about the scope, date/time and location of the planned public consultation meeting.

The Draft Environmental and Social Management Plan and the Draft Stakeholder Engagement Plan were disclosed in the Akçakoca Municipality website as of 2nd of January 2024.

Brochures were provided to mukhtars to be distributed to the residents in their neighborhoods. Brochures were also distributed to participants during the meeting. Akçakoca Municipality representatives and ACE Experts were available during the meeting. A presentation was given to the participants by ACE. The presentation covered the following main headings:

- Project Executor, Implementer and Financier
- Project Description
- Expected benefits of the Project
- Environmental and Social Studies
- Potential environmental and social impacts
- Mitigation measures and management strategies
- Stakeholder engagement and how stakeholders can be involved in the process
- Questions and answers



At the end of the meeting, there was a question/answer session. There were six questions raised by the participants as follows:

Q.1: Who will undertake the maintenance and repair of the solar panels once the system is operational?

A.1: The Mayor stated that all the control and maintenance of the system will be undertaken by the contractor company.

Q.2: The market place is a very old structure. Will there be reinforcement studies?

A.2: Reinforcement project has been prepared and reinforcement works will be carried out at the market place.

Q.3: How will the security be ensured at the project site?

A.3: There will be both security personnel and a camera system.

Q.4: Have natural disasters been taken into account for the project?

A.4: The reinforcement project has been prepared taking into account the earthquake risk.

Q.5: There is a creek near the market place. Will there be any measures for potential flooding?

A.5: The rehabilitation works for the creek have already been conducted by the State Hydraulic Works (DSİ).

Q.6: For how many houses does the generated electricity from the Project cover the electricity need?

A.6: It was stated that it has the power to meet the electricity need of 500 flats.

The mayor also stated that the eight (8) electrical buses purchased by the municipality will be charged from the Project, the surplus energy will be sold to SEDAŞ and electric vehicle charging stations will be set up in front of the market place that will generate profit for the municipality.

The following information is provided below:


- The newspaper announcements,
- The flyer,
- Selected photographs of places where flyers were hung,
- Selected photographs of municipal police distributing project brochures to citizens,
- The last page of the municipality report showing the number of SMS messages sent to citizens,



- The disclosure page of ESMP and SEP,
- The project brochure,
- The presentation given at the meeting,
- The photographs taken during the meeting and
- The participant list.

Newspaper Advertisements of Public/Stakeholder Consultation Meeting

ILN01962555 numaralı ilan INT-000144-www.milatgazetesi.com yayınında 05.01.2024 tarihinde yayınlanmıştır.



M Çine için gelişmelerden haberdar olmak için bildirimlere abone olun.

Engelli İlan Ver

Akçakoca Bisiklet Yolları Projesi Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi

AKÇAKOCA BELEDİYESİ

Akçakoca Bisiklet Yolları Projesi

Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santral Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIM TOPLANDIĞINA DAVET

İlmi Danışık Kurulunuzun Çatı Üzeri Güneş Enerjisi Santral Projesi'ni Değerlendiren Raporunda T.C. Akçakoca Belediyesi tarafından yapılan çalışmada "Akçakoca Bisiklet Yolları Projesi" ve "Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santral Projesi" için Çevresel ve Sosyal Yorum Planı çalışmaları ile ilgili olarak halkı bilgilendirmek, halkın görüş ve önerilerini almak üzere aşağıdaki bilgileri ve/veya "Halkın Bilgilendirilmesi ve Katılım Toplantısı" düzenlenecektir.

TUTANAK NUMARASI VE TARİHİ:

T.C. Akçakoca Belediyesi

Tarifi Tarihi: 05.01.2024

Toplantı Saati: 14:00

Toplantı Yeri: T.C. Akçakoca Belediyesi Meclis Salonu

Proje Sahibi: T.C. Akçakoca Belediyesi

Telefon: +90 368 011 41 10 - Faks: +90 368 011 16 50 - E-posta: iletisim@akcakoca.gov.tr

Yayıncı:

BASIN NO: ILN01962555

[f](#) [t](#) [s](#) [v](#) [i](#) [w](#)



The project is co-funded by the European Union, the Republic of Turkey and the World Bank.
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir.

04 İNANÇ & AİLE & YAŞAM **TEKİRİNE AKÇAKOCA HABER**

Akçakoca Bisiklet Yolları Projesi Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI YOL PLANI İÇİN DAVET

Her Bankası Sürdürülebilirlik Sorumlusu Projesi Ek Finansman kapsamında T.C. Akçakoca Belediyesi tarafından yapılan "Akçakoca Bisiklet Yolları Projesi" ve "Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi" için "Cumhuriyet ve Sosyal Yatırım Planı" çalışmalarını ilgili taraflara ulaştırılmaktadır. Halkın görüş ve önerilerini almak üzere aşağıda belirtilen yerlere "Halkın Bilgilendirilmesi ve Katılımı Toplantıları" düzenlenecektir.

**Yeni halkımızla buluşuyoruz.
T.C. Akçakoca Belediyesi**

Tarih: 08.01.2024
Tarih: Saat: 14:00
Tarih: Yeri: T.C. Akçakoca Belediyesi Merkezi Salonu

Proje Sahibi: T.C. Akçakoca Belediyesi
Telafi: +90 380 511 41 10
Foto: +90 380 511 36 05 - E-posta: iletisim@akcokca.gov.tr
Web: www.san.gov.tr (Bilgi: Mİ2023) www.ik.gov.tr

Dünya yeni yılın ilk sabahında AKÇAKOCA'DA SABAH Büyük Camii'nde buluştu NAMAZI BULUŞMALARI



Büyük Camii'nde sabah namazı kılınırken, Akçakoca Belediyesi tarafından düzenlenen "Dünya yeni yılın ilk sabahında" programı kapsamında, Akçakoca'da Sabah Namazı Buluşmaları düzenlendi.

Akçakoca Merkez Camii'nde düzenlenen buluşmada, İlahi, İlahi ve dua programı yapıldı.

Programın ardından öğle namazında buluştu. Haber: Zeynep DEMİR

Filtre Kahve'mizi & Hamburger'imizi Denediniz mi?



ABİTAŞ

AKÇAKOCA

Abitashakococa

Akçakoca Kahvecisi Şubelerinde Birbirinden Farklı Lezzetler Sizi Bekliyor...

KAHVALTI, YEMEK ve KAHVE'Yİ HUZUR DOLU BİR ORTAMDA DENEMEK İSTERMİSİNİZ.

Flyer for Public Informing about the Public/Stakeholder Consultation Meeting



Akçakoca Bisiklet Yolları Projesi Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISINA DAVET

Bir Birlikte Sürdürülebilir Şehirler Projesi ile Ek Tutararlılık kapsamında T.C. Akçakoca Belediyesi tarafından yapılan planlanan "Akçakoca Bisiklet Yolları Projesi" ve "Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi" için Çevresel ve Sosyal Yaşamın Etkileri ile ilgili olarak halkı bilgilendirmek, halkın görüş ve önerilerini almak üzere aşağıda detayları verilen "Halkın Bilgilendirilmesi ve Halkın Toplantısı" düzenlenecektir.

Tüm halkımıza saygıyla duyurulur,
T.C. Akçakoca Belediyesi

Toplanış Tarihi : 08.01.2024
Toplanış Saati : 14:00
Toplanış Yeri : T.C. Akçakoca Belediyesi Meclis Salonu
Proje Sahibi : T.C. Akçakoca Belediyesi
Telefon: +90 380 611 41 10 - Faks: +90 380 611 39 55 - E-posta: isletim@akcmvra.kel.tr



Selected Photographs of Places Where Flyers were Hung





The project is co-funded by the European Union, the Republic of Turkey and the World Bank.
Bu Proje Avrupa Birliği, Türkiye Cumhuriyeti ve Dünya Bankası tarafından ortaklaşa finanse edilmektedir.





Selected Photographs of Municipal Police Distributing Project Brochure to Citizens





The Last Page of the Municipality Report Showing the Number of SMS Messages Sent to Citizens

SMS messages were sent to 22,373 citizens.

	A	B	C	D	E	F	G	H
22310		GÜLCAN		DÜZCE	AKÇAKOC, HASANÇAYUŞ KÖYÜ			
22311		GÜLCAN		DÜZCE	AKÇAKOC, HASANÇAYUŞ KÖYÜ			
22312		AYDIN		DÜZCE	AKÇAKOC, AKKAYA KÖYÜ			
22313		AYDIN		DÜZCE	AKÇAKOC, AKKAYA KÖYÜ			
22314		VİLDAN Fİ		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22315		PINAR		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22316		PINAR		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22317		ÖZCAN		DÜZCE	AKÇAKOC, YENİ MAH.			
22318		TUĞBA		DÜZCE	AKÇAKOC, OSMANİYE MAH.			
22319		ARZU		DÜZCE	AKÇAKOC, ARABACI KÖYÜ			
22320		RAHİME		DÜZCE	AKÇAKOC, YENİ MAH.			
22321		MURAT		DÜZCE	AKÇAKOC, OSMANİYE MAH.			
22322		MURAT		DÜZCE	AKÇAKOC, OSMANİYE MAH.			
22323		ENVER		DÜZCE	AKÇAKOC, YENİ MAH.			
22360		ENES		DÜZCE	AKÇAKOC, ALTUNÇAY KÖYÜ			
22361		ENES		DÜZCE	AKÇAKOC, ALTUNÇAY KÖYÜ			
22362		ENES		DÜZCE	AKÇAKOC, ALTUNÇAY KÖYÜ			
22363		ENES		DÜZCE	AKÇAKOC, ALTUNÇAY KÖYÜ			
22364		ENES		DÜZCE	AKÇAKOC, ALTUNÇAY KÖYÜ			
22365		MELTEM		DÜZCE	AKÇAKOC, OSMANİYE MAH.			
22366		MEHMET		DÜZCE	AKÇAKOC, YALI MAH.			
22367		MEHMET		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22368		MEHMET		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22369		RLİKİYE		DÜZCE	AKÇAKOC, HACI YUSUFLAR MAH.			
22370		CEMAL		DÜZCE	AKÇAKOC, TEPEKÖY			
22371		CEMAL		DÜZCE	AKÇAKOC, TEPEKÖY			
22372		KEMAL		DÜZCE	AKÇAKOC, YENİ MAH.			
22373		KEMAL		DÜZCE	AKÇAKOC, YENİ MAH.			

Project Information Brochure

Şirketimiz ile işbirliğinde Türkiye'nin en başarılı ve güvenilir şirketlerinden biri olan Çaykur'un desteğiyle, Türkiye'nin en büyük çay pazarı olan Arçakoca'da, çay üreticilerinin gelirlerini artırmak ve pazarlama faaliyetlerini iyileştirmek için, Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi'nin gerçekleştirilmesi için işbirliğindeyiz.

Çaykur'un desteğiyle, Türkiye'nin en başarılı ve güvenilir şirketlerinden biri olan Çaykur'un desteğiyle, Türkiye'nin en büyük çay pazarı olan Arçakoca'da, çay üreticilerinin gelirlerini artırmak ve pazarlama faaliyetlerini iyileştirmek için, Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi'nin gerçekleştirilmesi için işbirliğindeyiz.

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Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi

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Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi



ŞİRKETLERİMİZİN İŞBİRLİĞİNDE

ARÇAKOCA KAPALI PAZAR YERİ YATIRIM PROJESİ

ARÇAKOCA KAPALI PAZAR YERİ YATIRIM PROJESİ

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Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi

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Arçakoca Çay Pazarı Kapalı Pazar Yeri Yatırım Projesi



Presentation Given in the Public/Stakeholder Consultation Meeting

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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

Neşriyet Riskleri
 Özet Etiketler

- 1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 2. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 3. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 4. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 5. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 6. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 7. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 8. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 9. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ
- 10. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Biyçeçirliklik Kurumun Alanlar

Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

Kültürel Miras

1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

Paydaş Katılımı

1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

Paydaş Katılımı

1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

Paydaş Katılımı

1. İKLİM BİLİMSEL VERİLERİNE GÖRE KLİMAYI DÜZENLEYEN SİSTEMİN DEĞİŞTİRİLMESİ



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Çevresel ve Sosyal Etkiler ve Etik Azaltma Önlemleri

SÜRDÜRÜLEBİLİR SUY KULLANIMI PROJESİ-HİKLİM Projesi

AKÇAYMA KANALI İZMİR-YERİRE ÇATIŞI İZMİR GÜNEŞ ENERJİLİ SANTRAL PROJESİ

Katılımınız ve İlginiz için Teşekkür ederiz.

Sorular ve Görüşler



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Photographs from the Public/Stakeholder Consultation Meeting





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Participant List


Akçakoca Bisiklet Yolları Projesi
Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi
HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

NO	NO KAYIT	İSİMİ	KATILIM ÜSTESİ	TELEFON	İMZA
1		Elazığ İlçe	Akçakoca Belediyesi		
2		Elazığ İlçe	Akçakoca Belediyesi		
3		Elazığ İlçe	Akçakoca Belediyesi		
4		Elazığ İlçe	Akçakoca Belediyesi		
5		Elazığ İlçe	Akçakoca Belediyesi		
6		Elazığ İlçe	Akçakoca Belediyesi		
7		Elazığ İlçe	Akçakoca Belediyesi		
8		Elazığ İlçe	Akçakoca Belediyesi		
9		Elazığ İlçe	Akçakoca Belediyesi		
10		Elazığ İlçe	Akçakoca Belediyesi		
11		Elazığ İlçe	Akçakoca Belediyesi		
12		Elazığ İlçe	Akçakoca Belediyesi		
13		Elazığ İlçe	Akçakoca Belediyesi		
14		Elazığ İlçe	Akçakoca Belediyesi		
15		Elazığ İlçe	Akçakoca Belediyesi		




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3		Elazığ İlçe	Akçakoca Belediyesi		
4		Elazığ İlçe	Akçakoca Belediyesi		
5		Elazığ İlçe	Akçakoca Belediyesi		
6		Elazığ İlçe	Akçakoca Belediyesi		
7		Elazığ İlçe	Akçakoca Belediyesi		
8		Elazığ İlçe	Akçakoca Belediyesi		
9		Elazığ İlçe	Akçakoca Belediyesi		
10		Elazığ İlçe	Akçakoca Belediyesi		
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12		Elazığ İlçe	Akçakoca Belediyesi		
13		Elazığ İlçe	Akçakoca Belediyesi		
14		Elazığ İlçe	Akçakoca Belediyesi		
15		Elazığ İlçe	Akçakoca Belediyesi		





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HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

No	AD SOYAD	MESLEĞİ	KATILIMCI LİSTESİ		TELEFON	İMZA
			TEMSİL ETTİĞİ KURUM / YERLEŞİM YERİ			
1		İsmail Akdemir	Akçakoca Belediyesi			
2		Bayram Numan	Akçakoca Belediyesi			
3		Ali Akdemir	Akçakoca Belediyesi			
4		Sabahattin	Yoktur			
5		Ertan	Yoktur			
6		Abdullah	Akçakoca			
7		PE-SE	Akçakoca			
8		Eğilim				
9		Özgür				
10		Eğilim				
11		Eğilim				
12		Eğilim				
13		Burak Perişanoğlu				
14		Özge	Kocaeli Büyükşehir Belediyesi			
15		Ali	Akçakoca Belediyesi			



Akçakoca Bisiklet Yolları Projesi
Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi
HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

No	AD SOYAD	MESLEĞİ	KATILIMCI LİSTESİ		TELEFON	İMZA
			TEMSİL ETTİĞİ KURUM / YERLEŞİM YERİ			
1		Emine Akdemir				
2		Özge				
3		Emine	Akçakoca Belediyesi			
4		Emine	Yoktur			
5		Emine				
6		Emine				
7		Emine				
8		Emine				
9		Emine				
10		Emine				
11		Emine				
12		Emine	Akçakoca Belediyesi			
13		Emine				
14		Emine	Emine Akdemir			
15		Emine				





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HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

No	AD SOYAD	MESLEĞİ	KATILIMCI LİSTESİ TEMSEL ETTİĞİ KURUM / YERLEŞİM YERİ	TELEFON	İMZA
1		Muhür	Muhür		
2		Muhür	Muhür		
3		Muhür	Muhür		
4		Bayan Hüseyin	Bayan Hüseyin		
5		Başkan	Başkan		
6		Firca	Firca		
7		Mehmet	Mehmet		
8		Su-ül	Su-ül		
9		Mehmet	Mehmet		
10		Mehmet	Mehmet		
11		Selma	Selma		
12		Mehmet	Mehmet		
13		Firca	Firca		
14		Mehmet	Mehmet		
15		Su-ül	Su-ül		



Akçakoca Bisiklet Yolları Projesi
Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi

HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

No	AD SOYAD	MESLEĞİ	KATILIMCI LİSTESİ TEMSEL ETTİĞİ KURUM / YERLEŞİM YERİ	TELEFON	İMZA
1		Muhür	Muhür		
2		Muhür	Muhür		
3		Muhür	Muhür		
4		Muhür	Muhür		
5		Muhür	Muhür		
6		Başkan	Başkan		
7		Muhür	Muhür		
8		Muhür	Muhür		
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Akçakoca Bisiklet Yolları Projesi
Akçakoca Kapalı Pazar Yeri Çatısı Üzeri Güneş Enerjisi Santrali Projesi
HALKIN BİLGİLENDİRİLMESİ VE KATILIMI TOPLANTISI
09.01.2024

No	AD-SOYAD	MESLEĞİ	NATİMLİK LİSTESİ		TELEFON	İMZA
			YERLİ	YERLEŞİM YERİ		
1		Elektrik Mühendisi				
2		Öğrenci				
3		Öğrenci				
4		Öğrenci				
5		İşveren				
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