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SUSTAINABLE CITIES PROJECT – II

WITHIN THE SCOPE OF ADDITIONAL FINANCING

CONSULTANCY SERVICE FOR TECHNICAL FEASIBILITY PREPARATION

EZİNE MUNICIPALITY

SOLAR POWER PLANT

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

MARCH 2024

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ABBREVIATIONS

%	Percentage
€	Euro
µg	microgram
Inc.	Incorporated company
EU	European Union
EIA	Environmental impact assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
dB	Decibel
WB	World Bank
AF	Additional Financing
EHS	Environment, Health and Safety
EMRA	Energy Market Regulatory Authority
ESG	Environmental Social Governance
FAA	US Federal Aviation Administration
F.I.	Financial Intermediation
SPP	Solar power plant
Ha	Hectare
IFC	International Finance Corporation
ILBANK	ILBANK Joint Stock Company
OHS	Occupational Health and Safety

kg	Kilogram
KVS	Short Term Limit Value
kwe	Kilowatt Electricity
kwh	Kilowatt Hour
kwp	Kilowatt Peak
LARPF	Land Acquisition and Involuntary Resettlement Policy Framework
l	Liter
m	Metre
m^2	Square Meters
m^3	Cubic meter
MWh	Megawatt Hour
No.	Number
PV SYST	Photovoltaic System Software
SCP	Sustainable Cities Project
NGO	Non-Governmental Organizations
TAP	Portable Battery Manufacturers and Importers Association
TL	Turkish lira
UVS	Long Term Limit Value

Executive Summary

World Bank (WB) and Europe Technical and financial support from the Union (EU) support ILBANK Inc. (ILBANK), Sustainable Cities Project (SCP) projects series is implemented. SCP, participant municipalities and public services infrastructure service needs to improve aims.

SCP-II Additional Funding (AF) focuses on expanding next-generation operations into urban planning systems, particularly the broader sectors that will deliver and program urban transportation. It includes zero waste, energy efficiency, **renewable energy**, municipal social services, disaster recovery, urban renewal and restoration sectors.

Solar Energy Power Plant Project (979,2 kWp, 822 kWe) is planned by Ezine Municipality within the borders of Canakkale Province, Ezine District, Danışment District, 221 block 90 parcel. The coordinate list and location map of the planned project area are given in the attachment (See Annex-1, See Annex-2). Within the scope of the project in question, the area where the Solar Power Plant will be established belongs to Ezine Municipality. Accordingly, the Land Registry is attached (See Annex-3).

The project in question is one of the subprojects within the scope of the Sustainable Cities Project - II - Additional Financing (SCP-II-AF), supported by World Bank financing in order to support sustainable development in cities in Turkey. The investment to be made within the scope of the project will comply with both National legislation and World Bank Safeguard Policies. In addition, Ilbank will act as a financial intermediary to ensure compliance with relevant World Bank policies and procedures.

With the project put into operation, approximately 60,76% of the total electricity consumption of Ezine Municipality will be met. While determining this rate, the last year consumption data of Ezine Municipality (2.407,85 MWH) and the production of the SPP Project (1.453 MWH) were taken as basis.

The approximate cost of the project is 685.510 € and the unit price is 700,07 €/kWp, based on market research. The loan to be paid for the project is calculated as 47.378,84 € per year. In addition, the electricity unit price paid by the Authority is 2.9354 TL/kwh, which is 0.102 € based on the current exchange rate (1€=28.60 TL). If the project is carried out with equity capital, the amortization period is calculated as 6 years, and if the project is carried out with a World Bank loan, it is calculated as 10 years.

Project production data was calculated using EMRA data, global sunshine duration and PV SYST program. In addition to contributing to the economy with an annual production of 1.463 MWH, the power plant will also prevent 906,86 tons of carbon emissions due to solar energy being a renewable clean energy source.

The closest settlement to the area where the power plant will be established is Gazi District, located to the north of the project area and approximately 30 meters away. Ezine district is located to the east of the project area and approximately 1.3 km away. Additionally, a road passes in front of the project area. Accordingly, local people may be affected for a short time within the scope of the project. Excavation work will be carried out while the power plant is being established. Within the scope of the project, approximately 560 m long transmission line will be installed. Field work will be completed in approximately 3 weeks.

The project area was examined and photographed. Photos of the project are attached (See Annex-4).

1. Subproject Description

The specific purpose of the project is; the aim is to produce electricity using solar energy, which is a renewable energy source, with the solar energy panels to be installed within the scope of the project. In this way, Ezine Municipality will be able to use the budget allocated to electricity more efficiently and will be able to better respond to the needs of improving public and environmental health.

The constant increase in energy needs and the constant increase in unit costs significantly increase the energy costs of the municipality. Reducing carbon emissions through environmental policies and international agreements is another factor of this project. The satellite image of the project area is given in Figure 1.

Figure 1. The Project Area Satellite Image

The project area can be reached by going approximately 2,2 km after turning onto Atatürk Street on the Izmir-Çanakkale road. The visual describing the access route to the project area is given both in Figure 2 and in the attachment (See Annex-5).

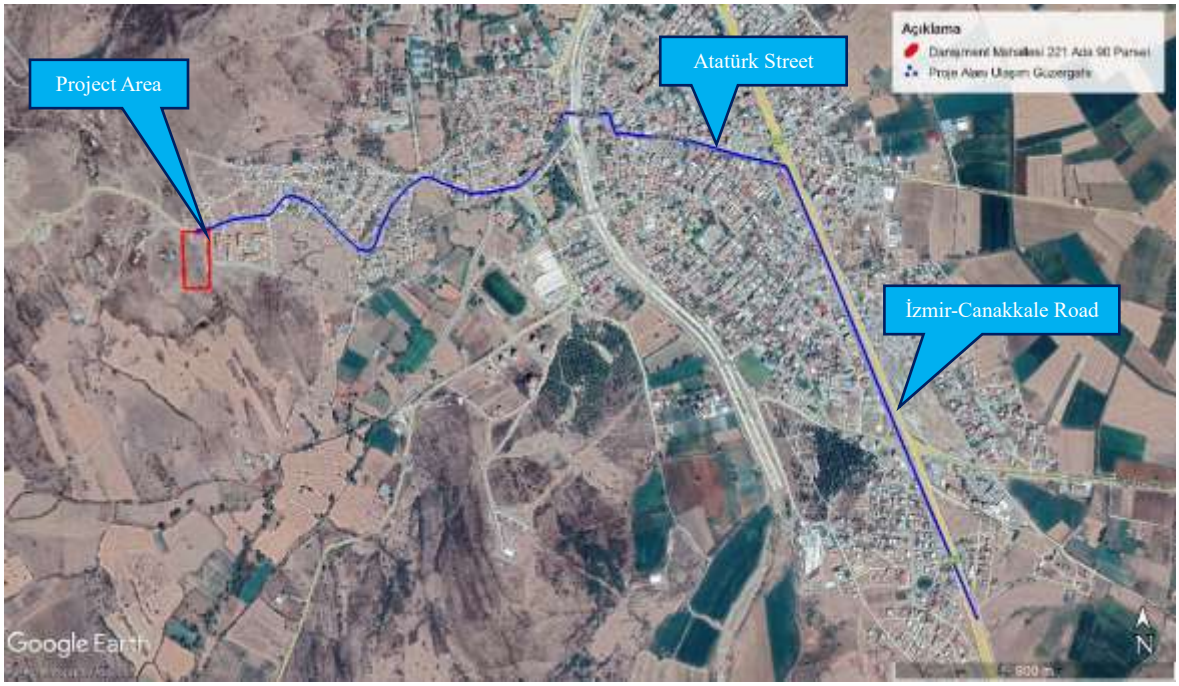

Figure 2. The Project Area Transport Route

The Solar Power Plant Project (979.2 kWp, 822 kW) is planned by Ezine Municipality within the boundaries of Çanakkale province, Ezine district, Danışment District, lot 221 of 221 block.

The connection agreement given by Uludağ EDAŞ within the scope of the planned project is given attached (See Appendix -9).

In this direction, a transmission line will be opened at a distance of approximately 560 meters. Then, the grid connection will be made. The energy transmission line route is given both in Figure 3 and in the attachment (See Annex-6).

Figure 3. Project Area – Energy Transmission Line Route

There is no private land along the energy transmission line route.

2. Environmental and Social Screening

Under the World Bank's Operating Policy on Environmental Assessment (OP 4.01), projects are classified under categories A, B or C, depending on the degree of their potential impact on the environment.

Category A) Can be defined as projects that have significant negative environmental and social impacts. The impacts of these projects are large-scale, irreversible, sensitive, diverse and cumulative.

Category B) can be defined as projects whose environmental and social impacts are typically site-specific and reversible in nature. Although the impacts of these projects are less than the impacts of subprojects within the scope of Category A, the precautions and monitoring phases can be designed more easily.

Category C) Can be defined as projects that will have minimal or no environmental impact.

By Ezine Municipality, within the borders of Canakkale province, Ezine District, Danisment District, 221 Block 90 Parcel “Solar Energy” Power Plant Project (979,2 kwp , 822 kwe)” is planned. The planned project is considered outside the scope of the EIA

Regulation, which came into force after being published in the Official Gazette dated 29.07.2022 and numbered 31907. It is also classified as Category B under World Bank OP 4.01.

3. Legal and Institutional Framework

In this section, a summary of national legislation, international standards and guidelines regarding the project and its activities is presented.

3.1. National Legal Framework

There is sufficient legal and administrative basis in our country for environmental and social management during the implementation of development projects. In the ESIA study, both Turkey and the World Bank environmental and social policy documents and guides are taken into consideration. Many regulations and decrees have been put into effect within the scope of Environmental Law No. 2872. Article 10 of the "Environmental Law" states that an EIA report must be prepared for investment projects that may cause negative environmental impacts due to their planned actions.

The "Environmental Impact Assessment Regulation", which came into force after being published in the Official Gazette dated 29.07.2022 and numbered 31907, defines the types of projects for which the EIA report is required and the issues that need to be specifically addressed.

Solar Power Plant application is considered out of scope since it is not included in Annex-1 and Annex-2 lists according to the national EIA legislation. The project in question is classified as Category B within the scope of the World Bank Environmental Assessment Policy (OP 4.01).

In addition to the EIA Regulation, other regulations regarding environment, health and safety and social issues are given below:

- Regulation on Water for Human Consumption
  (OG 17.02.2005 Date and 25730 Number)
- Waste Management Regulation
  (OG 02.04.2015 Date and 29314 Number)
- Zero Waste Regulation
  (OG 12.07.2019 Date and Number 30829)
- Packaging Waste Control Regulation
  (OG 26.06.2021 Date and Number 31523)
- Regulation on the Management of Waste Electrical and Electronic Equipment

(OG 26.12.2022 Date and Number 32055)

- Industrial Air Pollution Control Regulation
  (OG 03.07.2009 Date and 27277 Number)
- Air Quality Assessment and Management Regulation
  (OG 06.06.2008 Date and 26898 Number)
- Regulation on Control of Exhaust Gas Emissions
  (OG 11.03.2017 Date and 30004 Number)
- Environmental Noise Control Regulation
  (OG 30.11.2022 Date and Number 32029)
- Regulation on Noise Emission in the Environment Created by Equipment Used in Open Areas
  (OG 30.12.2006 Date and 26392 Number)
- Water Pollution Control Regulation
  (OG 31.12.2004 Date and 25687 Number)
- Regulation on the Control of Waste Batteries and Accumulators
  (OG 31.08.2004 Date and 25569 Number)
- Medical Waste Control Regulation
  (OG 25.01.2017 Date and 29959 Number)
- Regulation on Control of Excavation Soil, Construction and Demolition Waste
  (OG 18.03.2004 Date and 25406 Number)
- Regulation on Control of Soil Pollution and Point Source Contaminated Sites
  (OG 08.06.2010 Date and 27605 Number)
- Regulation on the Protection of Employees from Noise-Related Risks
  (OG 28.07.2013 Date and 28721 Number)
- Occupational Health and Safety Regulation in Construction Works
  (OG 05.10.2013 Date and 28786 Number)
- Health and Safety Signs Regulation
  (OG 11.09.2013 Date and 28762 Number)
- Regulation on Health and Safety Conditions in the Use of Work Equipment
  (OG 25.04.2013 Date and Number 28628)
- Occupational Health and Safety Risk Assessment Regulation
  (OG 29.12.2012 Date and 28512 Number)
- Regulation on Grounding in Electrical Installations
  (OG 21.08.2001 Date and 24500 Number)
- Electrical High Current Facilities Regulation
  (OG 30.11.2000 Date and 24246 Number)
- Electrical Internal Facilities Regulation
  (OG 04.11.1984 Date and 18565 Number)
- Regulation on the Authorities, Duties and Responsibilities of Electrical Scientists

(OG 11.11.1989 Date and 20339 Number)

- Subcontracting Regulation
  (OG dated 27.09.2008 and numbered 27010)
- Regulation on Solar Energy-Based Electricity Production Facilities
  (OG 19.06.2011 Date and Number 27969)
- Regulation on the Use of Personal Protective Equipment in Workplaces
  (OG 02.07.2013 Date and 28695 Number)
- Regulation on Noise Emission in the Environment Created by Equipment Used in Open Areas
  (OG 30.12.2006 Date and 26392 Number)
- Labor Law No. 4857
- Occupational Health and Safety Law No. 6331
- Environmental Law No. 2872
- Expropriation Law No. 2942
- Soil Conservation and Land Use Law No. 5403
- Energy Efficiency Law No. 5627
- Right to Information Law No. 4982
- General Hygiene Law No. 1593
- Law No. 5346 on the Use of Renewable Energy Resources for the Purpose of Electrical Energy Production
- Law No. 2863 on the Protection of Cultural and Natural Assets
- National Parks Law No. 2873
- Forest Law No. 6831

3.2. International Standards

For the investments defined and outlined within the scope of this Project and in accordance with the World Bank's Environmental Assessment Policy (OP 4.01), an Environmental and Social Management Report (ESMP) must be prepared by the Project Owner.

World Bank Environmental and Social Protection Policies include environmental assessments of projects, environmental and social adverse impacts, and other policies regarding impact mitigation and prevention. The following operational policies are included within the framework of ESMP;

- Natural Habitats (OP 4.04)
- Physical Cultural Resources (OP 4.11)
- Indigenous Peoples (OP 4.10)
- Land Acquisition and Involuntary Resettlement (OP 4.12)

- Physical Cultural and Other World Bank Protection Measures

The Environmental and Social Monitoring System will cover the following:

- General Environment
- air emissions
- Soil
- Surface water and groundwater
- biodiversity
- Noise and dust emissions
- Social Monitoring

The International Finance Corporation (IFC) guidelines, also known as the International Finance Corporation, which are considered relevant to the project and must be followed during the ESMP study, are as follows:

- IFC General ESG Guidelines dated 30 April 2007
- IFC General EHS Guidelines Construction and Decommissioning

4. Baseline Data

By Ezine Municipality, within the borders of Canakkale province, Ezine District, Danisment District 221 Block 90 parcel “Solar Energy” Power Plant Project (979,2 kWp, 822 kW)” is planned. Within the scope of the project in question, the area where the Solar Power Plant will be established belongs to Ezine Municipality (Annex-3).

With the project put into operation, approximately 60,76% of the total electricity consumption of Ezine Municipality will be met. While determining this rate, the last year consumption data of Ezine Municipality (2.407,85 MWH) and the production of the SPP Project (1.453 MWH) were taken as basis.

Planned project in the scope of by Uludağ EDAŞ given connection agreement in line with about 560 meters to distance transport line by doing Distribution Central will be established. After that whereas promotion of stations distribution central using network connection will be done. There is no private land along the energy transmission line route.

In this direction, a transmission line will be opened at a distance of approximately 560 meters. Then, the grid connection will be made. There is no private land along the energy transmission line route.

It is anticipated that 15 personnel will work during the construction phase of the project and the solar energy installation process will be completed within 8 weeks.

The project area can be reached by going approximately 2,2 km after turning onto Atatürk Street on the Izmir-Çanakkale road

According to the data of the Turkish Statistical Institute, the population of Ezine District in 2023 is 33.413 people. This population consists of 17.440 men and 15.943 women. Accordingly, 52.29% of the population of Ezine District is male and 47,71% is female. The population of Danisment District consists of 1.263 people. In this context, the population of Danisment District corresponds to approximately 3,78% of the population of Ezine District.

5. Environmental and Social Management Plan

By Ezine Municipality, within the borders of Canakkale province, Ezine District, Danisment District, 221 block 90 parcel “Solar Energy” Power Plant Project (979,2 kWp, 822 kW)” is planned. It is anticipated that 15 personnel will work during the construction phase of the project and the solar energy installation process will be completed within 8 weeks.

Within the scope of the project, domestic solid waste and wastewater will be generated from the personnel who will work during the construction phase, and during the operation phase, glare and glare effects will occur due to photovoltaic panels.

In this regard, the possible environmental impacts that may occur within the scope of the project have been evaluated in detail below, the measures to be taken have been determined and monitoring plans have been prepared.

Water Use and Wastewater Generation

The water needs of 15 personnel who will work within the scope of the project will be met, and in parallel, wastewater will be generated due to the personnel. During the operation phase of the project, deionized water will be used to clean the panels, and the water falling on the ground will evaporate and will not cause wastewater formation. The cleaning of the panels will be done twice a year and will be in accordance with the current Occupational Health and Safety legislation.

The drinking water needs of the personnel who will work during the construction and operation phases of the project will be met with demijohns purchased from companies licensed by the Ministry of Health in accordance with the provisions of the "Regulation on Water for Human Consumption". Domestic water needs will be met from the network. Additionally, deionized water required for cleaning the panels will also be purchased.

The places where water will be used, its quantities, supply locations, wastewater amounts and the disposal method of wastewater during both the construction and operation phases of the project are given in Table 1.

Table 1. Water Supply Plan To Be Used in Construction and Operation Phases

Project Period	Water use	The amount of water	Water Supply Place	Amount of Wastewater	Wastewater Disposal Method
Building	Drinking and potable water for 15 people who will take part in the land preparation phase	15 people x 231 lt /person-day* = 3.47 m^3 /day	Drinking and utility water that will be needed during the land preparation and construction phase will be supplied by demijohns.	15 people x 172 lt /person-day* = 2.58 m^3/day**	A septic tank will be installed and removed by sewage trucks.
Business	Cleaning of Photovoltaic Panels (Twice a year)	4 m^3/year deionized water (0.01 m^3/day)	Panel cleaning will be done twice a year with chemical-free water, except on rainy days. Domestic water will be provided by purchasing.	-	Since the water will remain on the concrete floor during the panel cleaning process, it will evaporate and wastewater will not be formed. Any remaining water on the panel will be wiped off with a dry cloth.
	Drinking and potable water for 2 people who will take part in the operation phase	2 people x 231 lt /person-day* = 0.46 m^3 /day		2 people x 172 lt /person-day* = 0.34 m^3/day**	A septic tank will be installed and removed by sewage trucks.

Note 1*: The amount of water a person will need is taken as 231 lt / person-day (Turkish Statistical Institute, Çanakkale, 2020).

Note 2:** The daily amount of wastewater generated by one person is taken as 172 lt / person (Turkish Statistical Institute, Çanakkale, 2020).

Drinking water to be used by the personnel who will work during the land preparation and construction phase of the project will be supplied from branded, original packaged bottled water sold in the licensed market in accordance with the provisions of the "Regulation on Water for Human Consumption".

The drinking and potable water needed by the personnel who will work at all stages of the project will be subject to regular control and inspection monitoring analyzes authorized by the Ministry of Health every year, in accordance with the criteria of the "Regulation on Water for Human Consumption", which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730. It will be carried out in accredited laboratories and analysis reports will be kept.

Within the scope of the project, Environment, Health and Safety Guidelines (Wastewater and Ambient Water Quality) published by the International Finance Corporation (IFC) will be followed. In this context, the criteria given in Table 2 will be complied with.

Table 2. Wastewater and Ambient Water Quality Criteria

Criteria
• Determining the quality, quantity, source and discharge point of liquid waste generated in the facility, • Inspecting the tightness of the septic tank, • Removing wastewater from the septic tank via a sewage truck at regular intervals, • Taking samples from the wastewater discharged to the sewerage infrastructure at certain periods and checking its compliance with the discharge limits, • Obtaining the appropriate opinion from the infrastructure administration for discharge to the sewer, • Meeting the pre-treatment and monitoring requirements of the sewage treatment system, • Minimizing wastewater generation to reduce the burden of pollutants requiring treatment, • Adopting and implementing water saving methods, • Separation of rainwater and wastewater channels, • Improving wastewater lines and preventing leaks.

Waste Management

Among the wastes that can be generated, recyclable (paper, plastic, glass, etc.) and non-recyclable wastes (food scraps, etc. organic waste) will be collected separately in garbage containers placed at various points of the project site. Wastes that can be recycled will be sent to licensed recycling companies; Domestic solid waste that cannot be recycled will be disposed of by sending it to licensed disposal facilities.

For the packaging waste generated in the facility, in accordance with the colors specified within the scope of the "Zero Waste Regulation" published in the Official Gazette No. 30829 dated 12.07.2019 (blue color for paper waste, yellow color for plastic waste, gray color for metal waste, green color for glass waste). and black for non-recyclable waste) waste bins will be provided, a Zero Waste Management System will be established and data of the waste collected for the previous month will be entered into the Integrated Environmental Information System (e-çbs) within the framework of the relevant regulation by the 15th of each month.

During the operations to be carried out within the scope of the planned project, domestic solid waste will be generated due to the personnel working. According to the data received from Turkish Statistical Institute, the daily amount of solid waste generated per person in Çanakkale in 2020 is 1,74 kg/day [(1)], accordingly, the amount of domestic solid waste that will arise from people who will work during the construction phase of the project is 26,1 kg/day (15 people x 1,74 kg/person-day solid waste will be generated. Approximately 3.5 (2x 1,74 kg/person-day) kg/day solid waste will be generated during the operation phase of the project.

Since the solid waste within the scope of the project will not be stored in the project area for a long time, it will not cause any problems such as odor or distribution.

All regulations (Waste Management Regulation, Packaging Waste Control Regulation, Zero Waste Regulation) regarding the storage of all solid waste (food residues, packaging paper, pet bottles, glass bottles, etc.) within the scope of the project will be complied with.

In addition, within the scope of Article 5 of the Regulation in question, employees will be informed that planting in seas, lakes and similar receiving environments, streets and forests is prohibited.,

Within the scope of the project, the Environment, Health and Safety Guidelines (Waste Management and Hazardous Material Management) published by the International Finance Corporation (IFC) will be followed. In this context, the criteria given in Table 3 will be complied with.

Table 3. Waste Management Criteria

Criteria
• Obtaining all necessary permits, certificates and approvals from the relevant official authorities, • Regular inspection of waste separation and collection practices, • Monitoring records regarding hazardous waste collected, stored or shipped, • Preventing waste generation, reducing it, reusing it, recovering it, recycling it, removing it and finally establishing a waste management hierarchy. • Preventing or minimizing waste generation as much as possible, • Recovering and reusing waste in cases where waste production cannot be prevented but minimized, • In cases where wastes cannot be recycled or reused, their processing, destruction and disposal in an environmentally compatible manner, • Identifying source reduction, reuse and recycling opportunities, • Establishing purchasing measures that allow for opportunities to return usable materials, such as containers, and prevent overordering of materials.

[(1)] Municipal Waste Statistics, Istanbul Province, Average Municipal Waste Amount per Person (kg/person-day), Turkish Statistical Institute, 2020.

Criteria
• Minimizing hazardous waste generation by applying solid waste separation to prevent the mixing of non-hazardous and hazardous wastes to be managed, • Identifying potentially recyclable materials, • Determining recycling targets and monitoring waste production and recycling rates, • Providing training and incentives to employees to achieve goals, • Identifying potential impacts and risks associated with the management of hazardous waste generated throughout its entire life cycle, • Storing waste in a way that prevents incompatible wastes from mixing or coming into contact with each other and allows monitoring of leaks or spills between containers, • Store indoors, away from direct sunlight, wind and rain. • Ensuring the reduction of waste at source.

Waste Panels

Waste panels, switches, solar regulators, inverters, etc. The materials will be temporarily stored in the Hazardous Waste Storage Area located in the existing facility. It will then be delivered to the closest or most economical licensed recycling company to the project area for recycling.

Waste Batteries

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

Medical Waste

Medical waste is not expected to be generated in the project area as the nearest health institution will be visited in case of an accident. In case of occurrence, the relevant provisions of the "Medical Waste Control Regulation", which came into force after being published in the Official Gazette dated 25.01.2017 and numbered 29959, will be complied with. Medical waste that is likely to be generated as a result of the use of first aid materials available in the facility in case of emergency; tear, puncture, explosion and transportation resistant; It will be placed in leak-proof red plastic bags made of original medium density polyethylene raw material and bearing the phrase "CAUTION MEDICAL WASTE". The bags will be filled at most ¾ and their mouths will be tightly tied, and when deeme

d necessary, each bag will be placed in another bag with the same features to ensure absolute sealing.

Within the scope of the project, the Environment, Health and Safety Guidelines (Waste Management and Hazardous Material Management) published by the International Finance Corporation (IFC) will be followed. In this context, the Waste Management Criteria to be followed are given in Table 3 and the Hazardous Material Management criteria are given in Table 4.

Table 4. Hazardous Material Management Criteria

Criteria
• Determining hazardous material management priorities based on hazard analysis of risky operations determined through Social and Environmental Assessment, • Avoiding or minimizing the use of hazardous substances whenever possible, • Preventing the uncontrolled release of hazardous substances into the environment or uncontrolled reactions that may lead to fire or explosion, • Using engineering controls (limitation, automatic alarms and shutdown systems) appropriate to the nature of the hazard, • Implementation of management controls (procedures, audits, communications, training and exercises) to address remaining risks that cannot be prevented or controlled by engineering measures, • Recording the types and quantities of hazardous substances found in the project, • Analyzing potential spill and release scenarios using available industry statistics on spills and accidents whenever possible, • Analyzing the potential for uncontrolled reactions such as fire and explosion, • Identification of the locations of hazardous materials and related activities on the emergency plan field map, • A description of response activities in the event of a spill, release, or other chemical emergency. • Performing occupational safety analysis to identify specific potential occupational hazards and industrial hygiene studies, as appropriate, to monitor and verify exposure levels to chemicals and compare with applicable occupational exposure standards. • Conducting training, awareness-raising activities and exercises, • Identification and implementation of permitted maintenance activities such as hot work or confined space entries, • Providing appropriate personal protection equipment (PPE) (shoes, masks, protective clothing and goggles in appropriate areas), emergency eyewash and shower stations, ventilation systems and sanitary facilities, • Preparation of monitoring and recordkeeping documents that include audit procedures designed to verify and record the effectiveness of preventing and controlling exposure to occupational hazards and to maintain accident and incident investigation reports on file for a period of at least five years. • Using transfer equipment that is suitable and compatible with the characteristics of the transferred materials and designing them to ensure safe transfer.

Excavation Waste

Within the scope of the project, excavation works will be carried out during the land preparation and construction phase, the opening of the energy transmission line, the arrangement of the land, the installation of machinery and equipment will be carried out, and a limited amount of excavation waste will be generated in this area. Excavation waste will be used as filling material.

In order to place the machinery and equipment to be installed within the scope of the project, excavation will be carried out at a depth of 0,05 m in an area of approximately 13.800 m^2.

According to this;

13.800 m^2 * 0,05 m = 690 m^3 excavation will occur.

The works will be carried out in accordance with the provisions of the "Regulation on the Control of Excavation Soil, Construction and Demolition Wastes", which came into force after being published in the Official Gazette dated 18.03.2004 and numbered 25406. In the studies to be carried out, the provisions of the "Regulation on the Control of Soil Pollution and Point Source Contaminated Sites", which came into force after being published in the Official Gazette dated 08.06.2010 and numbered 27605, will also be taken into consideration.

In addition, the "Zero Waste Regulation", which came into force after being published in the Official Gazette dated 12.07.2019 and numbered 30829, will be complied with at all stages of the planned project.

Dust Emission

Within the scope of the project, excavation will be carried out during the opening of the energy transmission line during the land preparation and construction phase, which will last 3 week. Dust emissions will occur during the excavation process.

Calculations for dust emissions that may occur during land preparation and construction works are stated in Table 12.6 of the “Regulation on Control of Industrial Air Pollution", which came into force after being published in the Official Gazette No. 27277 dated 03.07.2009. It was calculated using “Emission Factors to be Used in Dust Emission Mass Flow Calculations” and is given in the attachment (See Annex-7).

It is not thought that the dust emissions that will occur during the 3-week land preparation and construction phase of the Solar Energy Project will negatively affect the air quality. The dust emission concentration resulting from the activities carried out in this direction is evaluated in accordance with both the Industrial Air Pollution Control

Regulation and the Air Quality Assessment and Management Regulation (Table 5). Additionally, dust emissions will remain below the limit values in the Environment, Health and Safety Guidelines (Air Emissions and Ambient Air Quality) published by the International Finance Corporation (IFC).

Table 5. PM10 Pollutant Limit Values

Regulation	Average Time	Limits	Annual Decrease of Limit Value	Warning Threshold
Air Quality Assessment and Management Regulation	**KVS** (24 hour) 95%/year To protect human health	**300 µg/m³**	**100 µg/m³** starting from 1.1.2009 until 1.1.2014 It decreases annually by an equal amount every 12 months until (33% of the limit value).	First level: 260 µg/m³ Second level: 400 µg/m³ Third level: 520 µg/m³ Fourth level: 650 µg/m³ (The values given are 24-hour averages.)
	Winter Season Avg. (October 1 – March 31) To protect human health	**200 µg/m³**	The limit value is **90 µg/m³** starting from 1.1.2009 until 1.1.2014 It decreases annually by an equal amount every 12 months until it reaches (45% of the limit value).	
	UVS (Annual) To protect human health	**150 µg/m³**	Starting from 1.1.2009, the limit value decreases annually by an equal amount every 12 months until it reaches **60 µg/m³** (40% of the limit value) until 1.1.2014)	
Industrial Air Pollution Control Regulation	**24 Hours** (Cannot exceed more than 35 times in a year)	**50 µg/m³**	-	-
	Yearly	**40 µg/m³**	-	-
IFC Environmental, Health and Safety (EHS) Guidelines: Air Emissions and Ambient Air Quality	**24 Hours**	**-**		Temporary Target-1: **150 µg/m³** Temporary Target-2: **100 µg/m³** Temporary Target-3: **75 µg/m³** Directive: **50 µg/m³**
	1 Year	**-**		Temporary Target-1: **70 µg/m³** Temporary Target-2: **50 µg/m³** Temporary Target-3: **30 µg/m³** Directive: **20 µg/m³**

Within the scope of the activity, the issues specified in the "Regulation on Control of Industrial Air Pollution", "Air Quality Assessment and Management Regulation" and the Air Emissions and Ambient Air Quality Guide published by the International Finance Corporation will be complied with.

Exhaust Gas Emission

Within the scope of the project, ego gas emissions will occur due to the vehicles used during the transportation of photovoltaic panels, materials and equipment to the project area, and will have a slight impact on the existing air quality. In this regard, the provisions of the "Exhaust Gas Emission Control Regulation" will be complied with in order to minimize the exhaust gas emissions arising from the vehicles to be used within the scope of the project. Maintained and repaired vehicles will be used.

Noisy

During the construction phase of the project, the noise level will vary throughout the day. However, since the work will be carried out during daylight hours, noise generation will be limited.

It is thought that after the installation of the power plant, the noise level that the equipment will emit to the environment during operation, especially the inverter panel and substation equipment, will be below 25 dB and therefore it will not pose any problem as the noise will completely disappear at a distance of 60-80 m. Considering that the nearest residential area is 30 m away and the noise during the construction phase will end within 3 weeks, it will not pose any problem. In addition, the determined values are below the limit values given in national and international legislation. A complaint complaint mechanism will be implemented regarding these issues. Noise calculation is given in the attachment (See Annex-8).

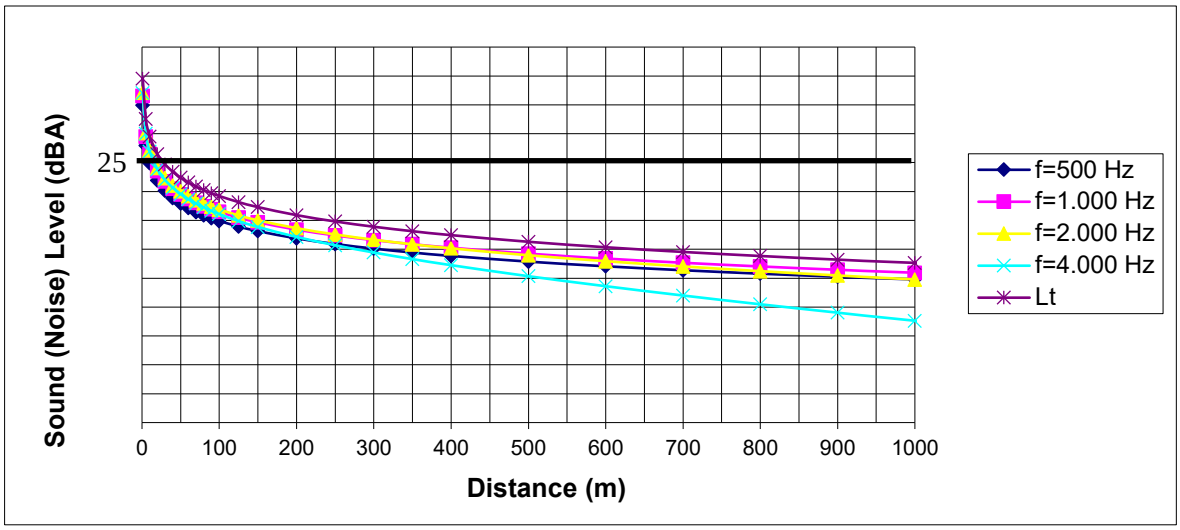

Figure 4. Noise Distribution Graph by Distance

Table 6. Environmental Noisy Level Border Values

Noise Source	Measured Parameter	Environmental Noise Level		
		Daytime	Evening	Night
Industrial facilities, transportation resources	LA eq , 5 min.	**65dB(A)**	60dB(A)	55dB(A)
Businesses that broadcast music	LA eq , 63-250 Hz.	60dB(A)	55dB(A)	50dB(A)
Workplaces	LA eq , 5 min.	Background + 5 dB (A)		Background + 3 dB (A)
If there is more than one workplace	LA eq , 5 min.	Background + 7 dB (A)		Background + 5 dB (A)
All sources	LCmax _	100dB(C)		

Table 7. IFC Noise Management – Limit Values

Noise Source	Environmental Noise Level	
	daytime 07:00 – 22:00	night time 22:00 – 07:00
Residential, Corporate	**55dB(A)**	45dB(A)
Educational Place, Industrial, Commercial	70dB(A)	55dB(A)

The noise emissions that will occur during the land preparation and construction phases of the project remain below the limit values given in both the Environmental Noise Control Regulation and the Environment, Health and Safety Guides (Noise Management) published by the International Finance Corporation.

In the calculation, it is assumed that all vehicles and equipment operate simultaneously, there are no obstacles between noise sources and receivers, and noise sources operate uninterruptedly. There will actually be less noise.

In order to keep the noise level to a minimum, care will be taken to operate a minimum number of well-maintained vehicles and equipment at the same time. During construction work, not all vehicles will operate at the same time. The tools will operate in a specific order. In addition, the fact that the works will be carried out at certain times of the day (07:00 - 19:00) may limit noise generation to some extent.

Annex-2 (Measurement *and Monitoring of Environmental Noise Level) of the* "Environmental Noise Control Regulation" in the Official Gazette dated 30.10.2022 and numbered 32029; Table 1. Environmental Noise Level Limit Values will be followed.

In order to protect people within the scope of the project from risks involving health and safety information as a result of exposure to noise, the "Regulation on the Protection of Employees from Risks Related to their Departments" will be complied with.

In addition, the provisions of the "Regulation on Occupational Health and Safety in Construction Works" and the "Regulation on the Use of Personal Protective Equipment in Workplaces" will be followed.

For the noise levels of the equipment to be used, the provisions of the "Regulation on Noise Emission in the Environment Created by Equipment Used in Open Areas" will be complied with.

In addition, within the scope of the Project, action will be taken in accordance with the Environment, Health and Safety Guides (Noise Management) published by the International Finance Corporation.

Glare and Sparkle Effect

Another effect of solar power plant is the reflection and glare effect that occurs as a result of the image or light created by direct sunlight or a bright sky on the panels. Although the severity of glare and glare effects varies depending on the time of year and the geographical location of the power plant, the importance of the effect depends on variables such as potential receptor points (settlements in the impact area, transportation routes,

airports, etc.). Since photovoltaic panels absorb sunlight, the glare and glare effects in PV type systems are lower than in systems using other solar energy technologies.

Photovoltaic panels are designed to maximize absorption and minimize reflection to increase electricity generation efficiency. To limit reflection, photovoltaic panels are made of dark, light-absorbing materials and coated with an anti-reflective coating. Today's panels reflect an average of 2% of incoming sunlight.

According to the U.S. Federal Aviation Administration (FAA), current solar panels reflect slightly more light than black asphalt, on par with bodies of water and well below bare soil, vegetation, roofs, glass, snow or metal.[2]

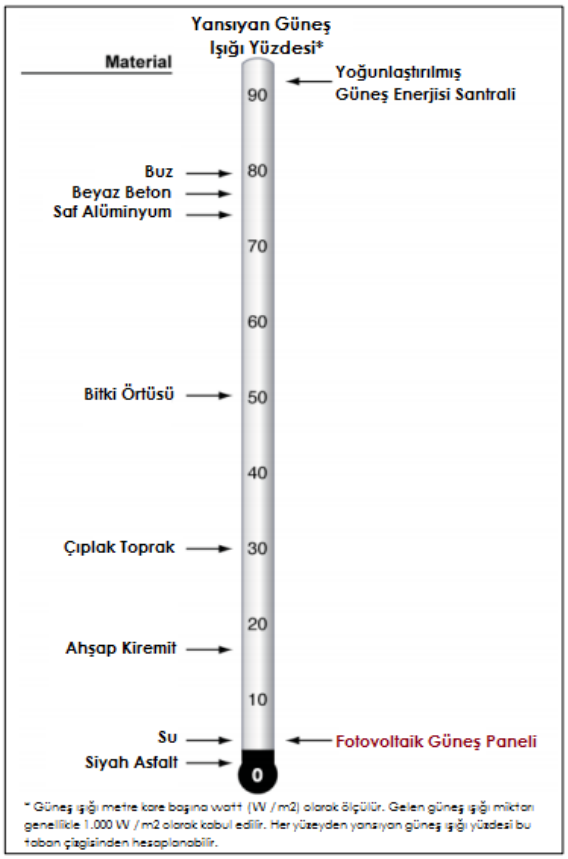

Figure 5. Sunlight Reflectance Percentages of Various Materials

Source:https://www.savemoneycutcarbon.com/learn-save/do-i-need-to-worry-about-glare-from-solar-panels/

Against possible reflection and glare effects, points where there is a risk of reflection will be determined and in the first year of operation, vegetal or artificial curtains will be

[2]https://www.savemoneycutcarbon.com/

applied at the necessary points according to visual monitoring and complaints from nearby settlements.

Evaluation According to Bird Migration Routes

Turkey constitutes the southeastern borders of the wide geography defined as the Western Palearctic region. Every year, in spring and autumn, during periods defined as migration periods, very regular and large-scale bird migrations occur between the Western Palearctic Region and the central, eastern and southern parts of the African continent.

While one of these routes passes over the Bosphorus, the other one enters our country from the Caucasus, passes through Northeastern Anatolia, and leaves our country from the south, like the first route. In spring and autumn, these movements are exhibited in opposite directions. Turkey is located on the most important bird migration routes between Europe and Africa, and due to its location, the areas on the migration routes are of great importance. The project area is located on the bird migration routes of our country. In this context, action will be taken in line with the opinion of the General Directorate of Nature Conservation and National Parks of the Ministry of Agriculture and Forestry of the Republic of Turkey.

Figure 6. Migratory Bird Migration Routes Map

Biodiversity

There is no distribution of natural flora and fauna in the area where the Project is located. As a result of the intense anthropogenic impact in the Project area, the distribution of natural habitats and flora and fauna has been greatly suppressed. The flora and fauna species that can be seen in the area consist of cosmopolitan species especially adapted to the settlement conditions. In terms of flora species, there is a distribution of culture species in

particular. The fauna distributed in the project area consists of species that show high tolerance to the effects of residential areas such as intense human presence, noise and traffic.

Population/Demographics

There is no negative impact on the population level expected from the project in the residential areas that are expected to be generally affected within the scope of the planned project. Additionally, no camping area will be established for workers during the construction period. Within the scope of the project, it is planned to meet the personnel needs as much as possible from local people.

Subcontractors are obliged to provide professional ethics training to each worker in order to ensure that the workers who will work during the construction do not have any negative impact on the social order. The Project Owner will ensure that contractors establish a code of conduct and ensure that workers regarding communication with citizens receive training before starting work.

Economy/Employment

It is anticipated that temporary employment will be created for construction works during the renovation and capacity expansion works to be carried out in the project. During construction, priority will be given to contributing to the local economy by using local materials and paying attention to providing various goods and services locally.

Natural Habitats

In our country, ecologically protected areas under the legal legislation under the responsibility of the Republic of Turkey Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks; National Parks, Nature Conservation Areas, Wildlife Development Areas, Wild Animal Settlement Areas, Natural Parks, Natural Monuments, Ramsar Areas and Wetlands.

In our country, areas that are ecologically protected by the legal legislation under the responsibility of the Ministry of Environment, Urbanization and Climate Change of the Republic of Turkey; they are Special Environmental Protection Areas.

When the project area is evaluated according to the ecologically protected areas under the legal legislation under the responsibility of both the Ministry of Agriculture and Forestry, General Directorate of Nature Conservation and National Parks and the Ministry of Environment, Urbanization and Climate Change of the Republic of Turkey, National Parks, Nature Conservation Areas, does not fall within Wildlife Development Areas, Wild Animal Settlement Areas, Natural Parks, Natural Monuments, Ramsar Areas, Wetlands and Special Environmental Protection Areas.

The closest protected area to the project area is Troy National Park, located in the northwest direction of the project area and approximately 12.6 km away.

Kazdağı National Park is located in the south-east direction of the project area and approximately 38.8 km away.

Satellite images showing the distance between the project area and nature parks are given in Figure 7 and Figure 8.

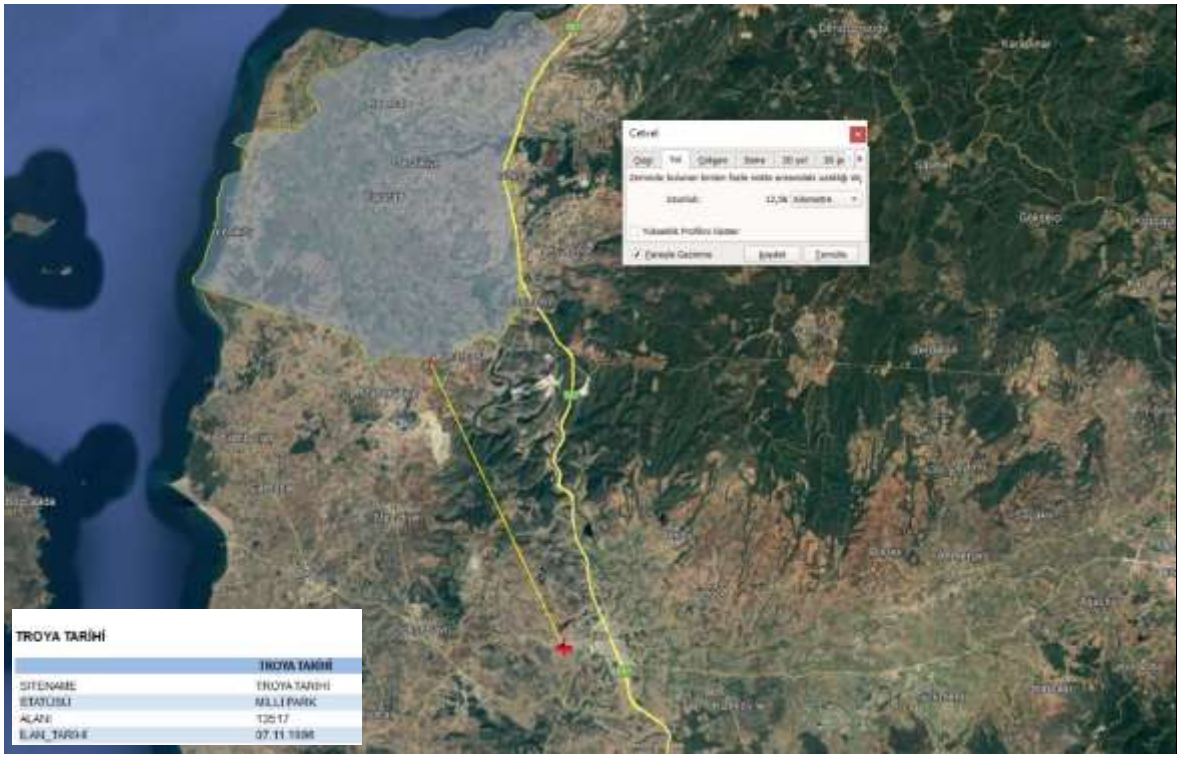

Figure 7. Project Area – Troy National Park Distance

Figure 8. Project Area – Kazdağı National Distance

Historical and Cultural Areas

The project area does not fall within the borders of any Tourism Center or Culture and Tourism Protection and Development Zone declared in accordance with the Tourism Incentive Law No. 2634.

If movable or immovable cultural assets are encountered during any work or operation to be carried out within the scope of the project, the nearest Museum Directorate will be informed in accordance with Article 4 of the Law Number 2863 on the Protection of Cultural and Natural Assets.

In addition, within the scope of the project, the provisions of the World Bank Physical Cultural Resources (OP 4.11) will be followed.

Agriculture and Forestry Areas

The project area consists of an area of approximately 1.4 hectares, qualified as "land", within the borders of parcel number 90, block 221, Danışment Village, Ezine district, Canakkale province.

The activity area subject to the project does not fall within the scope of areas qualified as "Forest Area". Within the scope of the project, the provisions of the World Bank Natural Habitats (OP 4.04) will be followed.

Land Acquisition / Use

The Solar Power Plant Project (979.2 kwp, 822 kwe) is planned by Ezine Municipality within the borders of parcel number 90, block 221, Danışment District, Çanakkale province, Ezine district.

Within the scope of the planned project, a connection agreement was given by Uludağ EDAŞ. A transmission line will be built at a distance of approximately 560 meters. It will then be connected to the grid.

There is no private land along the energy transmission line route. The energy transmission line route is given in Figure 3.

Within the scope of the project in question, the area where the Solar Power Plant will be established belongs to Ezine Municipality. Accordingly, the Land Registry is attached (See Annex-3).

Existing access roads will be used for project activities and no additional land will be acquired for access roads. If additional access roads are required in the future, an environmental and social impact assessment will be conducted for the proposed route.

The matters specified in the ESMP will be complied with by the Project Owner and Subcontractors in order to create temporary security measures in order to avoid any inconvenience to the citizens during the construction works to be carried out around the project area.

Working conditions

The Project Owner will be responsible for human resources for the construction and operation periods. Turkey is currently in the middle of its harmonization process with the European Union and its labor laws are being reviewed to ensure compliance. The project will comply with national labor, social security and occupational health and safety laws, World Bank Environment, Health and Safety Guidelines and International Labor Organization convention principles and standards.

In addition, the Subcontractor will provide training to its personnel during the execution of the works about the environmental and social impacts that should be taken into consideration during field works and included in the ESMP document. The subcontractor will inform its personnel about taking all precautions to prevent and/or minimize environmental and social impacts during field manufacturing. In addition, all these processes will be controlled by the Project Owner.

Community Health and Safety

Public health and safety problems are related to pollution factors that may arise from the construction and operation period of the project. It is anticipated that local people may be affected by the dust and noise that will occur, especially during the three-week land preparation and construction period.

In order to minimize the impact of traffic activities expected to intensify during the construction phase on the local community, working hours should be adjusted according to the peak transportation hours. Opinions of relevant stakeholders will be taken to determine a common working strategy, especially for construction activities to be carried out in front of and/or around areas such as schools and hospitals. Construction activities to be carried out around or in front of hospitals and/or healthcare institutions will be planned in a way that will not prevent the public from accessing these services.

In addition, during site preparation and construction activities, the Subcontractor, under the management of the Project Owner, will ensure that subcontractors take health and safety measures, such as informing the public about the construction plan and locations in a timely manner.

Accidents that may threaten public health and safety may occur as a result of not fully surrounding the construction sites and not placing the necessary warning signs. In this regard, appropriate warning signs and signals will be used to identify construction sites and irrigation will be provided during dry seasons.

Existing roads will be used within the scope of transportation of the panels. Possible damage to road surfaces due to traffic caused by heavy machinery will be rehabilitated by the Subcontractor. In case of any damage to infrastructure elements on private lands due to construction activities, mitigation measures will be implemented by the subcontractor.

Communities surrounding the Project area may be exposed to physical hazards associated with Project components during the construction phase. Additionally, confined spaces or fall hazards may occur due to unattended infrastructure. The project area will be fenced to prevent physical dangers to the communities associated with the project, and the local people, workplaces and government institutions that will be affected by the construction activities will be announced at least 2 days in advance.

Within the scope of the project, the provisions of the Environment, Health and Safety Guidelines (Community Health and Safety) will be complied with.

Occupational Health and Safety

It is planned to employ a total of 15 personnel during the construction process of the project, depending on the workload. The construction phase of the project includes excavation, filling and heavy vehicle use. Vehicle movements can cause accidents resulting in injury and death. Occupational Health and Safety (OHS) risks may arise due to the risk of pollution, dust emissions and noise generation during site preparation and construction works. In particular, construction works may cause accidents that will threaten the health and safety of employees if necessary precautions are not taken. In this context, the Project Owner and Subcontractor are obliged to provide a safe and healthy working environment for employees. During the construction period, workers are exposed to noise, dust, heat, chemicals, etc. may be exposed to various dangers. If potential risks at various stages of the Project are not managed appropriately, occupational accidents and injuries may occur. Potential accidents that may occur during the operation phases of the projects may cause potential health problems due to non-routine risks.

It will be ensured that employees are informed about their job descriptions, responsibilities and risks that may threaten health and safety related to the work performed. Employees will be provided with the necessary personal protective equipment and will be provided with information about work and occupational safety through regular training.

The Project Owner will take reasonable precautions to prevent occupational accidents, injuries and illnesses on site, including measures to reduce and prevent the risk of injury or illness, as well as the risk of exposure to harmful levels of environmental factors and chemicals.

The Project Owner will require all employees and contractors to comply with local and international health and safety legislation and guidelines. This will include the use of appropriate personal protective equipment (PPE), hearing protection and the implementation and adherence to a management system for activities associated with health and safety risks.

The risk of accidents that may arise from the technology and materials to be used within the scope of the project will be low if occupational health and safety legislation is strictly followed.

Within the scope of the project, the Occupational Health and Safety Regulation in Construction Works, Labor Law, Occupational Health and Safety Law and relevant regulations will be complied with.

In order to prevent all possible risks to human health at all stages of the project, all health and safety rules specified in the Labor Law, Occupational Safety Law and relevant regulations regarding occupational health and safety will be followed.

Work accidents, fire, etc. that may occur in the project area to respond to emergencies; Fire extinguishing tools and equipment (fire extinguishers, buckets, shovels, etc.), first aid materials, etc. within the project site in accordance with current regulations and laws. Will be kept and placed in suitable places where everyone can easily reach them.

The equipment in question will be shaped according to the risk assessment study to be carried out within the scope of the project.

In this study, the concepts of "accept, share the risk, reduce the impact and frequency, avoid" are emphasized and the steps to be taken to manage the risks are given below.

Preparation of Risk Assessment Guide

Risk assessment analysis and checklists prepared by international organizations will be examined and a Risk Assessment Guide will be created for implementation in our country. Risk Assessment Guides include determining the dangers that may arise in advance and taking the necessary precautions. In order to protect the safety of workplaces and the health of employees in our country, a Risk Assessment Guide must be available.

During the preparation of the Risk Assessment Guide, a Checklist and Risk Table are included. The Checklist is easy to use and understand. By simply answering Yes or No, predetermined points are checked.

In this regard, a Risk Assessment Guide will be prepared by the Occupational Health and Safety expert appointed within the scope of the project, in which hazards in both the construction and operation phases are defined, risks are determined, risk control measures are decided and monitoring work is included before the start of the activity.

Control List

The Checklist, prepared by the Occupational Health and Safety Specialist before starting the operation for the convenience of the user, includes the stages of preliminary analysis, project planning and design, tests and commissioning, and finally the operation of the power plant. In the stages examined, technical reasons are predominant and although it is not directly related to Occupational Health and Safety, it has an indirect effect. Risks where no precautions are taken against technical hazards during power plant installation will turn into Occupational Health and Safety risks in the following stages. Technical risks are included in the Checklist. In this regard, a Check List containing the risks and precautions that may occur in both construction and operation within the scope of the project will be prepared, and the personnel assigned for this job will periodically check whether the actions in the list are implemented.

Risk Assessment Table

The Risk Table, which is detailed in terms of Occupational Health and Safety, is more comprehensive than the Check List. In preparing the Risk Table, the risk value is determined by giving numerical values of the risks that may occur in the work area in advance. The Prepared Risk Table includes 3 stages for Solar Power Plants. These are installation, tests and commissioning, and finally operation and maintenance of the power plant. In the content of the Risk Table, unlike the Checklist, non-technical risks in terms of Occupational Health and Safety are examined. When using the Risk Table, firstly the hazards and the dangers that may arise from the hazards are determined. As a result of these, impact/harm consequences are defined. In order to determine the risk as a value, probability and severity values are determined and the risk value is created as a result of multiplying them. If the risk value is below the threshold value, it means that the risk is at an acceptable level and the measures are sufficient; if it is not below the threshold value, it means that the risk is not at an acceptable level and the measures taken are insufficient. In this case, the measures taken need to be increased. In this regard, a Risk Assessment Table will be prepared by an Occupational Health and Safety expert in which the impact of existing risks that may occur in both construction and operation will be determined.

Application of Risk Assessment Table

The Risk Assessment Table, which determines the impact of existing and possible risks in both construction and operation, prepared by an OHS expert before starting the activity, must be used both during the opening of the electricity transmission line and the installation of Solar Power Plants. Thanks to preliminary studies, possible risks are identified and precautions are taken. It is decided whether the measures are sufficient or not by taking into account the threshold value. If the risk value of a hazard is above the threshold value, it is seen that the measures taken are not sufficient. This may not always be the case. Although adequate precautions have been taken thanks to preliminary studies, the risk value may be above the threshold value. In this context, measures determined in line with the risk control hierarchy will be implemented in order to eliminate risks and create a safe working environment within the control of the OHS specialist.

Within the scope of the project, an Emergency Response Plan will be prepared by the project owner to protect occupational safety and worker health.

Within the scope of the project, action will be taken in accordance with the Environment, Health and Safety Guidelines (Occupational Health and Safety) published by the International Finance Corporation (IFC).

Institutional Arrangements

It is necessary to have resources allocated to the management of environmental and social issues to ensure that the project in question is carried out in a way that minimizes its potential impacts. In this regard, first of all, the current structure of Ezine Municipality was evaluated and the institutional infrastructure needed to provide the specified services was tried to be revealed.

Current Administrative (Institutional Structure)

The organizational chart of Ezine Municipality is given below.

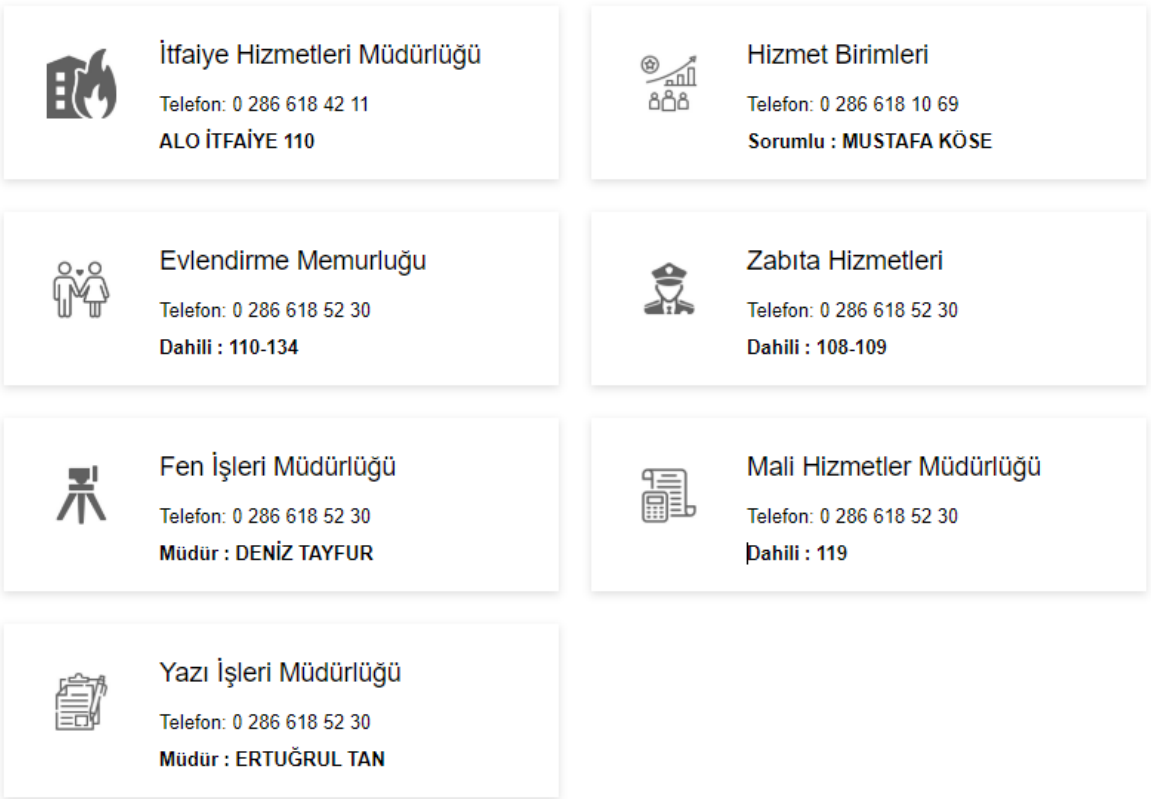

Figure 9. Ezine Municipality Organization Scheme

Duties and Responsibilities

It is the responsibility of Ezine Municipality to manage the issues specified in the ESMP prepared for the healthy execution of the project and to ensure that the necessary mechanisms are developed and implemented by the Contractor.

The studies to be carried out within the scope of this ESMP and the parties responsible for these studies are given below.

Table 8. Duties and Responsibilities

Organisation	Duties and Responsibilities
World Bank	• Checking whether the loan obtained from the bank is used within the scope of the relevant business, • Verifying compliance with tender, contract documents and procedures • Monitoring the transactions to be carried out at certain periods, • Conducting site visits with a designated team at certain periods.
ILBANK	• Preparing Ezine Municipality's project documents in accordance with World Bank requirements and providing guidance on public participation and announcement requirements, • To provide guidance to Ezine Municipality officials and consultants on World Bank requirements for protection measures (documents and procedures) regarding cultural assets, land acquisition and involuntary resettlement, natural habitats, forests and international waterways, • Reviewing documents related to the environmental and social assessment of the project, providing comments to consultants and granting official approval to these documents and procedures in accordance with World Bank safeguarding requirements, • Monitoring studies such as the implementation of ESMP and other environmental and social impact mitigation measures, • Monitoring and auditing Ezine Municipality's ESMP practices and providing feedback on its performance, suggestions and steps to be taken within the scope of general project supervision, • Obtaining the opinions of relevant groups and local environmental/social experts about the environmental and social dimensions of the project implementation and holding meetings with these groups when necessary during field visits, • Ensuring coordination and communication regarding field visits to be carried out within the scope of World Bank inspection missions regarding environmental and social protection measures related to project implementation.
Ezine Municipality	• Execution of tenders in accordance with the Public Procurement Agency legislation and the legal requirements of the World Bank, monitoring the Construction Contract and working in cooperation with ILBANK on construction supervision, • Implementation of ESMP and related management plans and fulfillment of all commitments within the scope of ESMP, • Sharing the ESMP with the Contractor, guiding the Contractor in the preparation of sub-management plans, and approving these plans, • Updating the ESMP when necessary and sharing additional commitments with the Contractor, • Environmental review, monitoring and inspections regarding ESMP applications, evaluation of results,

	• Auditing contractor activities in line with ESMP requirements, • Providing EHS training to all Project personnel, • Ensuring compliance with project standards, taking urgent action in case of non-compliance, • To stop work in any situation that threatens the environment, society and occupational health and safety, • To ensure the tracking and analysis of environmental (including OHS) and social accidents/incidents, • Ensuring stakeholder participation, implementation of the complaint redressal mechanism, ensuring continuous information transfer through open communication, • To report unexpected situations such as environmental, social and labor problems or accidents, incidents or loss of time to ILBANK and the World Bank within three business days, • Coordinating actions and evaluations in case of changes in legislation regarding environmental and social issues, changes in permit provisions, new environmental/social data, construction/operation strategy changes.
The Contractor	• Fulfilling all requirements of ESMP and management plans, • Implementation of additional commitments determined by Ezine Municipality, • Ensuring compliance with project standards and obtaining all relevant permits and licenses, • Monitoring construction activities (including subcontractor activities) and taking measures within the scope of ESMP, • Developing sub-management and monitoring plans/procedures in accordance with the ESMP structure and implementing them after the approval of Ezine Municipality, • Employing competent Environmental, Social and OHS Experts (at least one Social Expert, one Environmental Expert and one OHS Expert) within the scope of the project, • Providing necessary training on environmental and social issues to contractor and subcontractor personnel, • Ensuring follow-up and analysis of environmental and social accidents, • Reporting environmental audits, monitoring and inspections regarding ESMP practices to Ezine Municipality, • Immediate notification of unexpected situations such as environmental, social and business problems or accidents, incidents or loss of time to the Project Owner and keeping an event log on site throughout the life of the Project, • The incident report containing root cause analysis and corrective actions to be taken will be submitted to ILBANK and the World Bank within 30 days.

It will include environmental, social and OSH experts to oversee the implementation of the ESMP. Experts will monitor the implementation of the ESMP by Ezine Municipality and document performance, recommendations and other necessary actions. Provides guidance to municipal officials on World Bank procedures, consultation and disclosure requirements.

Education

Project Owner Ezine Municipality will conduct a training and awareness program covering ESMP expectations and commitments. The Audit Consultant will organize a workshop for this training with the Project Owner. As a minimum requirement, this program will be implemented as training for employees and contractors responsible for the implementation of the ESMP. The Project Owner will provide training to employees and subcontractors before the construction phase begins.

The person will be given the necessary training before the recruitment process. Compliance with the rules of conduct, including gender-based violence, sexual harassment, sexual exploitation and abuse, included in the training to be provided, will be included in the contract clauses of the staff. The sanctions to be applied in case of non-compliance with the rules of conduct will be clearly stated in the contract.

Measurement and evaluation should be made at the end of the training given to the personnel. This aims to increase the competence of staff. According to the results of the review, it is determined whether the training is effective or not, and if necessary, changes can be made to the training program, instructors can be changed or the training can be repeated.

The Project Owner will ensure that all personnel responsible for the implementation of this ESMP are competent in terms of education, training and experience. All personnel will be provided with environmental and social training appropriate to their fields of activity and level of responsibility.

Trainings will be repeated at regular intervals, taking into account the changing and emerging new risks specified in the Regulation on the Procedures and Principles of Occupational Health and Safety Training of Employees. Informing and training activities will be carried out not only for employees but also about the measures to be taken for public health and safety. Within the scope of the project, action will be taken in accordance with the Environment, Health and Safety Guides (Occupational Health and Safety) published by the International Finance Corporation (IFC).

Table 9. Precautions Plan

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
WASTE WATER	**Land Preparation and Construction Phase;** Domestic wastewater will be generated due to the personnel to work.	When they are not treated or disposed of appropriately, they cause underground and surface water pollution and soil pollution, and can negatively affect human and environmental health**.**	Indirect	Middle	Within the scope of the planned project, the water need of 15 personnel who will work in the construction and land preparation phase is **3,47 m³/day**, and the amount of wastewater it will create is **2,58 m³/ day**. A septic tank will be installed for the sink needs of the people who will work in the planned project and will be drawn by a sewage truck at certain periods.	It is included in the construction cost.	Project Owner

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
SOLID WASTE- HAZARDOUS WASTE- MEDICAL WASTE- PACKAGING WASTE	**Land Preparation and Construction Phase** Municipal waste caused by personnel working in the project area Packaging waste from personnel In addition, there are hazardous waste, waste batteries and accumulators.	When not disposed of, it causes contamination of underground and surface water resources, soil pollution and odor problems for human health.	Indirect	Middle	Municipal waste will be generated due to a total of 15 personnel who will work during the land preparation and construction phases of the project. Among the wastes that can be generated, recyclable (paper, plastic, glass, etc.) and non-recyclable wastes (food scraps, etc. organic waste) will be collected separately in garbage containers placed at various points of the project site. Wastes that can be recycled will be sent to licensed recycling companies; Domestic solid waste that cannot be recycled will be disposed of by giving it to the relevant Municipality. For the packaging waste generated in the facility, in accordance with the colors specified within the scope of the "Zero Waste Regulation" published in the Official Gazette No. 30829 dated 12.07.2019 (blue color for paper waste, yellow color for plastic waste, gray color for metal waste, green color for glass waste). and black for non-recyclable waste) waste bins will be provided, a Zero Waste Management	It is included in the construction cost.	Project Owner The contractor

					System will be established and data of the waste collected for the previous month will be entered into the Integrated Environmental Information System (e-çbs) within the framework of the relevant regulation by the 15th of each month. Since the solid waste that will be generated within the scope of the project will not be stored in the project area for a long time, it will not cause any problems such as odor, appearance or leakage. All solid wastes (food scraps, packaging paper, pet bottles, glass bottles, etc.) to be generated within the scope of the project are subject to the "Waste Management Regulation", "Packaging Waste Control Regulation", "Zero Waste Management Regulation", which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314. It will be disposed of in accordance with the " Waste Regulation" .		

	Operation Phase It is possible for panels to become damaged/idle.	When not disposed of, it causes contamination of underground and surface water resources, soil pollution and odor problems for human health.	Indirect	Middle	Panels, switches, solar regulators, inverters, etc that break down and become idle during or after the activity in question. The materials will be temporarily stored in the Hazardous Waste Storage Area in the existing facility, classified according to their properties and delivered to licensed recycling companies for recycling. Wastes that cannot be recycled will be given to licensed companies to be disposed of in accordance with the conditions specified in the "Waste Management Regulation", which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314. Recycling of PV modules basically consists of 3 steps. The first stage is mechanical, chemical and thermal delamination (separation of layers), the second stage is chemical coating removal and the final stage is chemical extraction. To recycle the crystal, it is necessary to recover crystalline silicon from the modules by pyrolysis at 500 °C and to remove metal anti-reflection and diffusion coatings by acid etching. Leaks caused by rare precious substances (silver, gallium, indium, germanium), conventional materials (aluminum and glass), and hazardous substances (lead and cadmium) in PV modules are among the most important environmental problems caused by PV modules. With the latest decisions taken by the European Union Commission, PV panels are included	It is included in the operating cost.	Project Owner

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
					among the Electrical and Electronic Equipment Waste. Recycling 1-ton silicone in the PV module corresponds to approximately 370 kg CO2 equivalent, which increases to approximately 800 – 1200 kg CO2 equivalent when produced with 100 % recycled raw materials. Compared to landfilling, the recycling scenario has less impact on the environment.		

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
AIR POLLUTION	**Land Preparation and Construction Phase** Dust emissions from excavation works and exhaust gas from construction machinery and vehicles to be used during the land preparation and construction phase of the project emissions will occur.	Emissions may temporarily cause air pollution and indirectly soil and water pollution. It will also have temporary effects on human health and the flora and fauna of the environment.	Direct	High	In order to minimize dust emissions that will occur during the land preparation and construction phase; Irrigation will be done with water sprinklers on the road routes, filling and unloading operations will be carried out without blowing, vehicles will be covered with tarpaulins during the transportation of materials and the upper part of the material will be kept at 10% humidity. In order to minimize the emissions resulting from vehicles, all vehicles and equipment to be used will be routinely checked, vehicles that require maintenance will be taken into maintenance, and other vehicles will be used in the works until their maintenance is completed. In addition, they will be warned to work in accordance with the Traffic Law and care will be taken to ensure that they load in accordance with the loading standards. At all stages of the project, the provisions of the "Regulation on the Control of Industrial Air Pollution" which came into force after being published in the Official Gazette dated 03.07.2009 and numbered 27277 will be complied with. *The "Exhaust Gas Emission Control Regulation" and its provisions*, which came into force after being published in the Official Gazette dated 11.03.2017 and numbered 30004, will be complied with during the land preparation, construction and operation stages of the Project.	It is included in the construction budget.	Project Owner The contractor

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
NOISE AND VIBRATION	**Land Preparation, Construction and Operation Stages:** During the land preparation and construction phases of the project, noise will be generated from the operation of construction equipment and machinery equipment.	Noise has negative effects on human health and fauna.	Direct	High	The noise that will occur during the construction phase of the project will be local and temporary and will end at the end of construction. During this phase, regular checks of the work machines to be used will be made to ensure that the limit values specified in the Environmental Noise Control Regulation are not exceeded. Care will be taken to ensure that as few vehicles as possible operate at the same time. During the construction phase, noise will vary throughout the day during the works, but since the works will be carried out during the day (07:00-19:00), noise generation will be limited. During the works within the scope of the project, necessary measures will be taken to minimize noise generation, taking into account the conditions to be observed in road vehicles and the conditions to be observed in equipment used in open areas. In addition, in the project area, the issues specified regarding the "noise criteria for construction sites" will be complied with regarding the noise that will occur during the construction phase, and vehicles with traffic inspections, exhaust measurements and maintenance will be used. In addition, if necessary, workers will be provided with headgear, headphones, earplugs, etc. specified in the Labor Law Number 4857. Protective clothing and equipment such as will be provided.	It is included in the construction budget.	Project Owner The contractor

Problem		Potential Impact	Effect Type	Impact Significance	Mitigation Measures	Cost	Responsible Party
EXCAVATION AND SOIL POLLUTION	**Land Preparation and Construction Phase** During the land preparation and construction phase of the project, excavation residue material will be generated during excavation.	If not disposed of, it causes visual pollution and dust spread.	Indirect	Middle	Flammable, explosive and hazardous materials will not be used in the excavation works to be carried out during the land preparation and construction phase. During the works, the provisions of the Waste Management Regulation, the Regulation on the Regular Storage of Numbered Wastes and the Regulation on the Control of Excavation Soil, Construction and Demolition Wastes will be complied with.	Included in Construction Budget	Project Owner The contractor

Table 10. Monitoring Plan

PARAMETER TO BE MONITORED		LOCATION OF THE PARAMETER	MONITORING METHOD	VIEWING FREQUENCY	REASON FOR WATCHING	CORPORATE RESPONSIBILITY	Cost
Excavation Waste		In the project area	Visual inspection, record and report keeping	During the excavation works, continuous	Compliance with the Regulation on the Control of Excavation Soil, Construction and Demolition Waste	-Investor -Contractor	Included in the project budget
Air Management	Dust Emission	Construction site and transportation routes	Observational	Throughout the entire construction	Monitoring whether measures are taken to prevent dust emissions, protecting the environment and employee health, Industrial Air Pollution Control Regulation, Air Quality Assessment and Management Regulation, IFC Environmental Health and Safety Guidelines : Air Emissions and Ambient Air Quality	-Investor -Contractor	Included in the project budget
	Vehicle Emissions	Construction equipment exhausts	Observational	During periodic maintenance periods of vehicles	Ensuring compliance with the Exhaust Gas Emissions Control Regulation, IFC Environmental Health and Safety Guidelines : Air Emissions and Ambient Air Quality	Investor -Contractor	Included in the project budget
Noisy		In sensitive areas near construction sites and work areas	With Noise and Vibration Measurement Device, by a Qualified and Accredited Company (Observational)	In cases where there is a complaint	Environmental Noise Control Regulation, Regulation on the Protection of Employees from Noise-Related Risks, IFC Environmental, Health and Safety Guidelines : Noise Management	-Investor -Contractor	Included in the project budget
Vibration		In sensitive areas near construction sites and work areas	With Noise and Vibration Measurement Device, by a Qualified and Accredited Company (Observational)	In studies carried out at different points or in cases where there is a complaint	Environmental Noise Control Regulation, Regulation on the Protection of Employees from Noise-Related Risks, IFC Environmental, Health and Safety Guidelines : Noise Management	-Investor -Contractor	Included in the project budget

PARAMETER TO BE MONITORED		LOCATION OF THE PARAMETER	MONITORING METHOD	VIEWING FREQUENCY	REASON FOR WATCHING	CORPORATE RESPONSIBILITY	Cost
Landscape		Areas where construction work will be carried out	Taking photos and recording with a camera	Continually observational	For landscaping works to be carried out after construction	-Investor	Included in the project budget
Waste Management	Municipal waste, Packaging Waste	In the construction area or in the area to be used as a construction site	Observational Audit and Recording	Daily	Ensuring compliance with the Regulation on Soil Pollution Control and Point Source Contaminated Sites, Packaging Waste Control Regulation, Waste Management Regulation, IFC Environmental, Health and Safety Guidelines : Waste Management	-Investor -Contractor	Included in the project budget
	Hazardous Wastes	In the construction area or in the area to be used as a construction site	Observational Audit and Recording	Continually	Ensuring compliance with the Waste Management Regulation, IFC Environmental, Health and Safety Guidelines : Waste Management	-Investor -Contractor	Included in the project budget
	Other Wastes (Battery, Battery, etc.)	In construction sites	Recording the Delivery to Recycling Companies	Continually	Regulation on the Control of Waste Batteries and Accumulators, IFC Environmental health oath Safety Guidelines : Waste Management	-Investor -Contractor	Included in the project budget
Occupational Health and Safety		In all studies	Observation and supervision	Continually	Ensuring compliance with Labor Law and Regulations, IFC Environmental, Health and Safety Guidelines : Occuptional Health and Safety	-Investor	Included in the project budget
Transportation (Traffic load that may occur during the transportation of panels)		On-site and off-site roads	Observational	Continually	Life and property safety Road Traffic Law	-Investor	Included in the project budget
Labor and Labor Flow		In all studies	Inspection of inappropriate working conditions, child	Continually	Ensuring compliance with Labor Law and Regulations,	-Investor	Included in the project budget

PARAMETER TO BE MONITORED	LOCATION OF THE PARAMETER	MONITORING METHOD	VIEWING FREQUENCY	REASON FOR WATCHING	CORPORATE RESPONSIBILITY	Cost
		labor, unregistered employment		IFC Environmental, Health and Safety Guidelines : Occuptional Health and Safety		
Waste water	Discharge Point to Sewer	Analysis	During the construction phase	Water Pollution Control Regulation, IFC Environmental, Health and Safety Guidelines : Wastewater Management	-Investor -Contractor	Included in the project budget
Grievance Mechanism	In all studies	Documentation control, review of complaint records, number and nature of resolved complaints	Continually	Examining Accident Records, Carrying out Internal and External Audits and Due to the functioning of the Grievance Mechanism	-Investor	Included in the project budget
Climate Change	In all studies	Calculation of greenhouse gas emissions reduced within the scope of the project (documentation control)	1 per year	Adapting to Climate Change / Reducing greenhouse gas emissions	-Investor	Included in the project budget
Public Health and Safety Community Engagement	In all studies	Documentation control Examining security records and keeping an eye out for elements that may threaten public health and safety during construction.	Monthly	Examining complaint records, Keeping training records, Preparation of exercise reports Archiving of Accident Registration, Meeting and Announcement Minutes IFC Environmental Health and Safety Guidelines : Community Health and Safety	-Investor	Included in the project budget
Cultural Assets	In excavations	Observational	During the construction phase	Law on the Protection of Cultural and Natural Assets, OP 4.11 Physical and Cultural Resources	-Investor -Contractor	Included in the project budget

6. Stakeholder Participation

A stakeholder can be defined as any person, institution or group that has an interest/share in the project and its impacts. The purpose of stakeholder identification is; It is the identification and prioritization of project stakeholders, who may be directly or indirectly, negatively or positively affected by the project, or who are not directly affected but may be interested in the project, for consultation purposes. All stakeholder groups that are interested in the outcome of the project, that may be affected by the project, or that may have an impact on it will be identified. It involves screening a wide range of potential stakeholders, including institutions, associations, NGOs and other informal groups that should be included in the stakeholder engagement process.

Stakeholder participation plan is a plan that aims to establish strong, constructive and sensitive relationships by identifying the parties that may be affected by the project, which is necessary for the correct management of the environmental and social impacts of a planned project.

The purpose of stakeholder participation; It is to ensure continuous communication with stakeholders to provide them with information about the activities to be carried out during the construction and operation periods of the project, including project performance, project development and investment plans and their implementation. Stakeholder engagement is an activity that will continue throughout the planning, construction, operation and closure phases.

The people who will be primarily affected by the project are the people living in settlements close to the project route . Within the scope of the project, the land preparation and construction process will last 3 weeks. The total installation time of the project is expected to be 8 weeks. If needed within the scope of the project, local personnel will be employed.

During the transportation of the panels within the scope of the project, there will be temporary effects that will directly reflect on the public, such as increasing the traffic load, creating dust emissions, and noise emissions from working machinery and equipment.

It is important to make particular efforts to identify disadvantaged and vulnerable stakeholders who may be differently or disproportionately affected by the project or who may have difficulty participating in the participation and development process. Stakeholder identification is also an ongoing process and will require regular review and updating.

The stakeholder analysis table determined within the scope of the project in question is given below.

Table 11. Stakeholder Analysis Table

Parties Affected by the Project	Project implementers, on-site and nearby settlements and people living there
Other Interested Parties	World Bank Ilbank Ministry of Environment, Urbanization and Climate Change Energy and Natural Resources Ministry Canakkale Governorship Provincial Directorate of Environment, Urbanization and Climate Change Ilbank Istanbul Regional Directorate Ezine Municipality Türkiye Electricity Distribution Inc. Uludağ Electricity Distribution Inc. The Contractor Advisor
Final Beneficiary	Ezine Municipality Neighborhoods and people living in the project area and nearby settlements

Within the scope of the project in question, the opinions of all stakeholders will be taken into account, and a social impact assessment of the project will also be carried out. This evaluation will be shaped as a result of scientific and observational-based research within the framework of literature study, measurable sampling surveys (household and headman surveys), observations and evaluations.

The implementation stages of the research are planned as follows:

- Clearly determining the objectives and studying the literature,
- Data collection process,
    - Design and selection of the sample
    - Development of data collection tools
    - Collection of data
- Entering and analyzing data into the statistical program for social sciences (SPSS),
- Writing the report in line with the data obtained,
- Utilizing these data within the scope of the project,

The main aims of this research are;

- To determine the current social and economic situation of the people living in the settlements around the project area,
- To evaluate the socio-economic effects of the works planned to be carried out within the scope of the project on the households in the immediate vicinity and to investigate whether some social groups will be negatively affected,

- Eliminating adverse effects means reducing and compensating for their effects when it is not possible to eliminate them.

Surveys will consist of a mixture of closed questions (mainly statistical data) and open or semi-open questions (mainly to obtain qualitative information) to cover areas of interest emerging from the literature study. The surveys planned to be implemented will be household and headman surveys. Details of the surveys are given below.

Mukhtar Surveys:

The aim of the interviews with the headmen is to collect general information about the settlements. Mukhtar survey in general; It consists of questions aimed at learning the demographic profile and social structure, services, infrastructure, environment, cultural structure, economic activities, education, health, information about the problems in the settlement and the opinions of the headmen about the project.

Household Survey:

The household survey aimed to collect information about the general socio-economic status of the households within the research area and their general opinions and expectations about the project. Household survey in general; It consists of questions aiming to learn the demographic and economic profile of the households, infrastructure and housing situation, education, health, problems and their opinions about the project.

When evaluating social and environmental impacts, all direct-indirect, short-term-long-term, planned-unplanned, known-unknown, purposeful-unintentional, visible-invisible impacts should be taken into account. In some cases, the entire segment of the society may be affected, and in other cases, a certain segment of the society may be affected. Some effects may remain invisible for a long time. In this context, the potential impacts that the project may have on the socio-economic environment in the region will be evaluated and the mitigation measures that need to be taken regarding these impacts will be defined. In the light of the findings resulting from all these studies, impact mitigation strategies will be determined and positive steps will be taken for the project in consultation with stakeholders.

Grievance Mechanism

The purpose of the Grievance Mechanism is to ensure that people affected by the project, including primarily affected communities and project staff, have access to the problem-solving procedure. Complaints may indicate growing stakeholder concerns and may escalate if not identified and resolved. Identifying and responding to complaints supports the development of positive relationships between project staff, local communities and other stakeholders. To evaluate the Environmental and Social Impacts of the Project during the construction and operation phase of the Project; A Complaint Procedure will be prepared to

cover all complaints expressed by internal and external stakeholders, including the activities of contractors. While the complaint mechanism is being established, a telephone line that will be active 24/7 will be established, and opinions and complaints will be collected by e-mail, postal mail and orally. Stakeholders may request that their complaints be recorded anonymously.

A structured Grievance Mechanism ensures that Project-related complaints are addressed through a transparent and impartial process. In this regard, from the early stages of the project's life cycle, the complaint procedure will be and will continue to be disclosed to the public through individual or group meetings, printed materials and notice boards.

Since the current installed system does not have a project-specific mechanism and recording system that complies with international standards, it is expected that a project-specific Grievance Mechanism will be established. In this regard, the personnel appointed by the municipality will record the complaints and suggestions received from different channels in a single established system and provide solutions within the time and application framework specified below. Personnel to be appointed by the municipality:

- From people communicating via phone/e-mail,
- From stakeholders who want to communicate based on project documentation,
- Coming from construction period personnel,
- From business personnel,
- It will record and track all complaints forwarded to contractors and written in petitions in a single system.

In order for this method to be successful, the appointed Municipal personnel, other municipal experts and subcontractors will be in constant contact. Introducing the complaint mechanisms, which are open to the public and will be established separately for employees, to the relevant stakeholders will also be included in the job description of the Municipality personnel to be appointed.

The Grievance Mechanism will be informed about the guide prepared by the World Bank to prevent sexual exploitation, abuse and harassment of projects financed within the scope of construction works. Complaints of gender-based violence, exploitation and harassment can create a culture of silence due to possible negative reactions by society. In order to prevent this, it is of great importance for stakeholders to submit complaints regarding these issues regarding the Project anonymously. In addition, authorities handling complaints must handle such matters confidentially and with an unbiased approach.[3]

[3] Environmental & Social Framework for IPF Operations

In the Mechanism to be established, all complaints received will be recorded in the Complaint Log by assigning a reference number.

Contact channels for formal complaints are provided below.

Ezine Municipality:

The contact information of Ezine Municipality, which stakeholders will use to convey their complaints, is given below.

Website: https://ezine.bel.tr/iletisim
Email: info@ezine.bel.tr
Phone number: 0 286 618 10 10
Official letter: Cumhuriyet Mah. Org. Nahit Şenoğul Cad. No:2 17600 EZİNE | ÇANAKKALE

Presidential Communication Center:

Presidential Communication Center (CİMER) provides a central complaint system for Turkish citizens, legal entities and foreigners. CİMER will be offered to Project stakeholders as an alternative and well-known channel to convey their complaints and feedback regarding the Project directly to government authorities.

Website: www.cimer.gov.tr
Call Center: 150
Phone number: +90 312 525 55 55
Fax number: +90 0312 473 64 94
Foreigners Contact Center:

Foreigners Communication Center: Foreigners Communication Center (YİMER) offers a central complaint system for foreigners. YİMER will be offered to foreign stakeholders of the Project as an alternative and well-known channel to convey their complaints and feedback regarding the Project directly to government authorities.

Web site: www.yimer.gov.tr
Call Center: 157
Phone number: +90 312 5157 11 22
Fax number: +90 0312 920 06 09

ILBANK:

In addition, if complainants do not find the feedback they receive from the municipality sufficient, they can forward their complaints to ILBANK as a higher authority, using the communication tools below.

Website: https//www.ilbank.gov.tr/form/bilgiedinmeuluslararasi
E-mail: bilguidb@ibank.gov.tr and etikuidb@ilbank.gov.tr
Phone number: +90 312 508 79 79
Official letter: ILBANK International Relations Unit, GM Team (letters should be marked as personal or confidential) Kızılırmak Mahallesi Ufuk Üniversitesi Caddesi No: 12 Çukurambar / Çankaya / Ankara

WORLD BANK:

Complainants, project-affected communities and individuals may submit their complaints using the following communication tools to the Bank's independent Inspection Panel, which determines whether harm has occurred or may have occurred as a result of the Bank's failure to comply with its policies and procedures.

Website: https://www.inspectionpanel.org/how-to-file-complaint
E-mail: ipanel@worldbank.org
Phone number: +1 202 458 5200
Official letter: Control Panel, Mail Stop MC10-1007, 1818 H Street, NW, Washington, DC 20433, USA

In addition to the municipality's communication tools, the following communication channels can also be used to submit complaints.

- Complaint boxes at construction sites (mainly for internal complaints) and the muhtar's offices of the relevant neighborhoods and/or designated locations for complaint boxes,
- Direct contact with construction site managers,
- Meetings and/or formal/informal consultations

In addition, a Grievance Redressal Mechanism will operate for employees, and all project employees will be notified through written and verbal communication. Each employee will be informed about the grievance redressal mechanism when hired and details of how the mechanism works will be specified. Requests requiring urgent solution and/or support will be responded to and support will be provided on the same day.

Table 12. Grievance Mechanism Flow Chart

Period	Action
Business Induction Letter	Before the project activity begins, the residents of the neighborhood will be informed that the work will start with a Start of Work Information Letter (See Annex-12). This letter will include the contact information of a person authorized by the municipality.
Submission of Complaint	The subject of the complaint is communicated by the complainant through any communication channel.
Complaint Registration	Complaints will be recorded with the Complaint Form (See Annex-11). All complaints will be recorded within two (2) days and feedback will be given to the complainant. If the complainant requests that this complaint be handled anonymously, this complaint will be recorded anonymously and the request will be accommodated. The action taken regarding the issue will be published on the Municipality's website if the anonymous person's communication channel is not available.
Evaluation of Complaints	Complaints will be evaluated within 10 business days and it will be determined whether the complaint meets the acceptability criteria. If the complaint is not valid, the necessary explanation will be made to the complainant.
Responding to Complaints	The complaint will be evaluated. If necessary, the complaint will be examined on-site. Depending on the type of complaint, representatives of the affected community will be interviewed. The actions taken to resolve the complaint and the results will be communicated to the petitioner. If the issue underlying the complaint is not resolved, the complainant will have the right to apply to the Court of First Instance and/or ILBANK, depending on the content of the complaint.
Complaint Closing	Unless an alternative agreement is made regarding the closing time of the complainant's complaint, relevant actions will be taken and documented within fifteen (15) business days from the date of application. Then, the complaint will be closed with the complaint closing form (See Annex-13). Recorded complaints and their responses will be shared on the Municipality's website. Thus, all complainants, including anonymous complainants, will be informed about their complaints and their consequences.
In Case the Complaint Cannot Be Resolved	The project complaint mechanism is monitored by ILBANK. Complaints will be evaluated by the Municipality and ILBANK will be informed. The actions taken to resolve the complaint will be communicated to the complainant by the Municipality. ILBANK will monitor the Municipality to ensure that the complaint mechanism operates smoothly. If the complaint is not resolved, the complainant can apply to the Civil Court of First Instance or ILBANK.
Reporting	The responsible department will ensure that all processes are carried out in accordance with the Complaint Process. A Consultation form will be prepared to record the questions and/or concerns of stakeholders during the process (See Annex-14). Complaints will be monitored and reported at regular intervals so that they can be analyzed regarding their type, frequency and how the complaints are resolved.

The Complaint Opening Form, Starting Work Information Letter, Complaint Closing Form and Consultation Form prepared within the scope of the Grievance Mechanism are attached (See Annex-11, Annex-12, Annex-13, Annex-14).

7. Attachments

Annex-1 Parcel Area Coordinates
Annex-2 Location Map
Annex-3 Land Registry
Annex-4 Project Area Photos
Annex-5 Project Area Transportation Road Route
Annex-6 Electricity Transmission Line Route
Annex-7 Dust Emission Mass Flow Calculation
Annex-8 Noise Calculation
Annex-9 Connection Agreement
Annex-10 SPP Aluminum and Steel Carrier System Static Calculation Report
Annex-11 Complaint Opening Form
Annex-12 Information Letter on Starting Work
Annex-13 Complaint Closing Form
Annex-14 Consultation Form
Annex-15 Single Line Diagram

ANNEX 1

PARCEL AREA COORDINATES

221 Block 90 Parcel Coordinates		
Number	**Latitude**	**Longitude**
1	39.7837	26.3210
2	39.7836	26.3210
3	39.7821	26.3211
4	39.7821	26.3220
5	39.7838	26.3220
6	39.7837	26.3218
7	39.7837	26.3210

ANNEX-2

LOCATION MAP

	Çanakkale Provincial Border		Parcel Boundary
	Ezine District Border		Project Area

ANNEX-3

LAND REGISTRY

Kaydı Oluşturan: MEHMET OK (Ezine Belediye Başkanlığı)

Tapu Kaydı (Hepsi)

TAPU KAYIT BİLGİSİ

Zemin Tipi:	AnaTasinmaz
Taşınmaz Kimlik No:	107537511
İl/İlçe:	ÇANAKKALE/EZİNE
Kurum Adı:	Ezine
Mahalle/Köy Adı:	DANİŞMENT Mah.
Mevkii:	Helvacı Tepesi
Cilt/Sayfa No:	5/432
Kayıt Durum:	Aktif

Ada/Parsel:	221/90
AT Yüzölçüm(m2):	14386.62
Bağımsız Bölüm Nitelik:	
Bağımsız Bölüm Brüt YüzÖlçümü:	
Bağımsız Bölüm Net YüzÖlçümü:	
Blok/Kat/Giriş/BBNo:	
Arsa Pay/Payda:	
Ana Taşınmaz Nitelik:	Arsa

MÜLKİYET BİLGİLERİ

(Hisse) Sistem No	Malik	El Birliği No	Hisse Pay/ Payda	Metrekare	Toplam Metrekare	Edinme Sebebi-Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
501055051	(SN:2860504) EZİNE BELEDİYESİ VKN:3840031534	-	1/1	14386.62	14386.62	3402 S.Y. Kadastro Kanununun Ek 1. Maddesi Gereği Yüz Ölçüm ve Cins	-

						Değişikliği İşlemleri 24-09-2019 5255	

MÜLKİYETE AİT ŞERH BEYAN İRTİFAK BİLGİLERİ

Ş/B/İ	Açıklama	Kısıtlı Malik (Hisse) Ad Soyad	Malik/Lehtar	Tesis Kurum Tarih-Yevmiye	Terkin Sebebi-Tarih-Yevmiye
Serh	Kamu Haczi : EZİNE MALMÜDÜRLÜĞÜ nin 24/02/2020 tarih E.10053 sayılı Haciz Yazısı sayılı yazıları ile. Borç : 384960.55 TL (Alacaklı : EZİNE MALMÜDÜRLÜĞÜ)	EZİNE BELEDİYESİ VKN		Ezine - 25-02-2020 09:01 - 1383	

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

veya Web Tapu anasayfasından (**https://webtapu.tkgm.gov.tr** adresinden) **8Gexzy2833D** kodunu Online İşlemler alanına yazarak doğrulayabilirsiniz.

ANNEX-4

PROJECT AREA PHOTOS

ANNEX-5

PROJECT AREA TRANSPORTATION ROAD ROUTE


Açıklama
Danişment Mahallesi 221 Ada 90 Parsel
Proje Alanı Ulaşım Güzergahı
Google Earth
900 m
N

APPENDIX-6

ELECTRICITY TRANSMISSION LINE ROUTE


Açıklama
Danışment Mahallesi 221 Ada 90 Parsel
Enerji Nakil Hatb Güzergahı
Google Earth
400 m
N

ANNEX-7

DUST EMISSION MASS FLOW CALCULATION

Mass Flow Calculations Emission Factors (SKHKKY)

PROCESS	EMISSION FACTOR	
	Uncontrolled	controlled
Disassembly of Materials	0,025 kg/ton	0,0125 kg/ton
Storage	5,8 kg/ha.day	2,9 kg/ha.day

The excavation and ground preparation works of the planned project are expected to be completed within 3 weeks. In the calculations, the excavation density was taken as 1,7 tons/m^3 and all calculations are given below:

Dismantling Excavation Materials and Loading them into Vehicles

Material Dismantling

Within the scope of the project, a total of 690 m^3 of materials will be dismantled in the project area. The mass flow rate of the emission that will occur is calculated using the controlled and uncontrolled emission factor and is given below.

Controlled

Dust Emission **(E_1)** = [690 m^3 x 1,7 tons/m^3 x 0,0125 kg/ton] / [21 days x (12 h/day)]

= **0,06 kg/hour**

Uncontrolled

Dust Emission **(E_1)** = [690 m^3 x 1,7 tons/m^3 x 0,025 kg/ton] / [21 days x (12 h/day)]

= **0,12 kg/hour**

Storage of material

The resulting excavation waste will be temporarily stored where the excavation is carried out and will later be used as filling material. In this context, it is planned to store 690 m^3 of materials at approximately 3 m elevations. Calculations for controlled and uncontrolled dust emissions that will occur in these processes are given below:

Excavation storage area = 690 m^3 / 3 m = 0,023 m^2 **= 230 m^2 = 0,023 ha**

Controlled

Dust Emission **(E_2)** = 0,023 ha x 2,9 kg/ha.day x (1 day/24 hours)

= 0,03 kg/hour

Uncontrolled

Dust Emission **(E_2)** = 0,023 ha x 5,8 kg/ha.day x (1 day/24 hours)
= 0,06 kg/hour

Total Emission (Controlled); **$= E_1 + E_2$**
= 0,06 + 0,01
= 0,07 kg/hour

Total Emission (Uncontrolled); **$= E_1 + E_2$**
= 0,12 + 0,01
= 0,13 kg/hour

The dust emission that will occur if the dismantling, loading, unloading, transportation and storage of the excavation are carried out simultaneously within the scope of the land preparation and construction works of the project has been calculated.

Since the dust emission value calculated in the controlled situation was 0,07 kg/hour, air quality modeling was not needed within the scope of the construction phase of the project

ANNEX-8

NOISE CALCULATION

The total sound pressure level that will occur under the most adverse conditions, assuming that the machinery and equipment to be used during the construction works are working at the same time and in distant locations and dispersedly;

It is calculated using the formula $L_{pt} = 10 \text{ Log } ( ).\sum_{i=1}^{n} 10^{Lpi/10}$

L_{pt} = Total sound pressure level
L_{pi} = Sound pressure level resulting from each work machine

Lpi) created by each work machine at a distance r from each source is calculated by the formula below.

$L_{pi} = L_{wi} + 10 \log (Q/A)$
$A = 4\pi r^2$
Q = Directivity coefficient (Hemispherical distribution of the sound source at ground level, Q = 2)
r = Distance from source (m)
L_{wi} = Sound power level (dB) of each work machine

The decrease in sound due to the effect of the atmosphere (Aatm) depends on the frequency of the source and the distance from the source. The average frequency range for construction equipment and road vehicles is accepted as 3,000-3,500 Hertz. The decrease in the average sound pressure level due to atmospheric retouching is calculated by the formula below.

atm _ = 7.4 x 10-8 x f2 xr / ϕ
atm _ = Decrease in sound pressure level (dBA) with atmospheric retouching
f = Frequency of transmitted sound (3.500)
r = Distance from source (m)
ϕ = Relative humidity of air (62,4%)

The calculation of the total noise level is found by subtracting the atmospheric effect from the total sound pressure level.

$L = L_{pt} - A_{atm}$

In case noise sources operate simultaneously, equivalent noise levels according to distances are calculated using the formula given below. Equivalent noise level distribution is given in table.

Equivalent Noisy of your level To the distances According to Distribution

Distance (m)	25	50	100	200	300	500	750	1.000
$L_{eş}$	34,7	30,7	25,0	25,0	-	-	-	-

ANNEX-9

CONNECTION AGREEMENT

ULUDAĞ
ELEKTRİK
DAĞITIM

ULUDAĞ ELEKTRİK DAĞITIM A.Ş.
Elektrik Piyasa İşlemleri Yönetmenliği

Sayı : -
Konu : Dağıtım Sistemine Bağlantı Anlaşması Hk.

T.C. EZİNE BELEDİYE BAŞKANLIĞI
CUMHURİYET MAH. NAHİT ŞENOĞLU CAD. N: 2 EZİNE / ÇANAKKALE

Çanakkale İli, Ezine İlçesi, Danişment Mah. adresinde T.C. EZİNE BELEDİYE BAŞKANLIĞI tarafından Lisanssız Elektrik Üretimi kapsamında yapılacak olan 0,999 MWe kurulu gücündeki Güneş Enerjisi tesisi projesi için yapılan "Dağıtım Sistemine Bağlantı Anlaşması" yazımız ekinde sunulmaktadır.

Bilgilerinize arz ederiz.

Sevgi BATİK
Elektrik Piyasa İşlemleri Yönetmeni
e-imzalıdır.

Tayfun TUTAR
Dağıtım ve Bağlantı Hizmetleri Direktörü
e-imzalıdır.

EKLER :
Dağıtım Sistemine Bağlantı Anlaşması

EK-10

SOLAR ENERGY PANELS ALUMINUM AND STEEL CARRIER SYSTEM STATIC CALCULATION REPORT

KURUM ONAYI

Kontrol Edilmiştir
Uygundur

Ankara Yıldırım Beyazıt Üniversitesi
Mühendislik ve Doğa Bilimleri Fakültesi
.....Tarih
.....Sayılı
Evrakında İncelenen Projedir.
İnşaat Mühendisliği Bölümü Tarafından
İncelenmiş ve Onaylanmıştır.

PROJE SORUMLUSU FİRMA	ERDİNÇ İBAS Proje ve Danışmanlık ERDİNÇ İBAS
PROJE SAHİBİ FİRMA	EZİNE BELEDİYESİ
İŞİN ADI	EZİNE BELEDİYESİ GES

İL	İLÇE	MEVKİİ	ADA/PARSEL
ÇANAKKALE	EZİNE	Danişment Mah.	221 / 90
DC KURULU GÜÇ	**AC KURULU GÜÇ**	**MODÜL GÜCÜ-SAYISI**	**EVİRİCİ GÜCÜ-SAYISI**
	822 kWe	400 W / 2448 ad.	

PAFTA ADI	SAHA UYGULAMALI GES STATİK HESAP RAPORU			
YAPAN	Erdinç İBAS İnşaat Mühendisi Oda No:82304	PAFTA NO		
ÇİZEN	Erdinç İBAS İnşaat Mühendisi Oda No:82304	TARİH	09.10.2020	S
KONTROL EDEN	Erdinç İBAS İnşaat Mühendisi Oda No:82304	ÖLÇEK	1/200-1/50-1/20	

APPENDIX-11

COMPLAINT OPENING FORM

	EZİNE MUNICIPALITY **SOLAR POWER PLANT PROJECT**
	COMPLAINT FORM

Person Filling Out the Form:	Date and time:
Meeting Agenda:	Reference No: Ezine Municipality-Project Code-0001-2..

1. INFORMATION ABOUT THE COMPLAINANT

Name surname:	**How the Complaint Arrives:**
TC Identification number:	Telephone / Toll Free Line ☐
Telephone:	Face to Face Meeting ☐
Address:	Website / Email ☐
Email:	Other (Explain) ☐

Stakeholder Type

State agency ☐	PEB ☐	Private Enterpris ☐	Job Room ☐	NGO ☐
Interest Groups ☐	Industrial Unions ☐	Labor Union ☐	Media ☐	University ☐

2. DETAILED INFORMATION ABOUT THE COMPLAINT

Description of the complaint:	
Solution method requested by the complainant	

Registrant Name Surname/Signature

Complainant Name Surname/Signature

EK-12

INFORMATION LETTER ON STARTING WORK

Dear Danışment Neighborhood Residents,

Some roads and some streets in your village will be affected during the "Opening of Electricity Transmission Lines" work within the scope of the Solar Power Plant project planned by Ezine Municipality.

According to the approved work program, the work in your neighborhood will start **soon**. First of all, we would like to apologize in advance for any inconvenience we may cause to those around us during the work.

Temporary Traffic Circulation Plans approved by Ezine Municipality will be notified to your neighborhood headman's office and transportation will be provided through the route determined by direction signs during the period the works continue.

We would like to inform you that we will do our best to cause you minimum inconvenience by completing the construction works as soon as possible in every street where excavation has started during our work.

In addition, the phone numbers of the authorities who can be called in case of any issue or disruption during the works are listed below. We would like to thank you in advance for your support and patience and tolerance to create a cleaner and more beautiful environment.

Regards,

Contact Persons:

Name Surname Phone.

EK-13

COMPLAINT CLOSING FORM

	EZİNE MUNICIPALITY **SOLAR POWER PLANT PROJECT**
	COMPLAINT CLOSING FORM

Reference No: Ezine Municipality-Project Code-0001-2..

1. DETERMINING CORRECTIVE ACTION	
1	
2	
3	
4	
5	
Responsible Departments	
2. TERMINATION OF THE COMPLAINT	
This section will be filled and signed by the complainant if the complaint specified in the "Complaint Registration Form" is resolved.	

Complaint Closing Date:

...../...../.....

Name and Surname / Signature of the Person Who Closed the Complaint: Name and Surname / Signature of the Complainant:

EK-14

CONSULTATION FORM

	EZİNE MUNICIPALITY **SOLAR POWER PLANT PROJECT**
	CONSULTATION FORM

Person Filling Out the Form:	Date and time:
Meeting Agenda:	Interview Registration Number: Ezine Municipality/Project Code-0001-2..

1. INTERVIEW INFORMATION

Interviewed Institution:	Form of Communication
Name and Surname of the Interviewee:	Telephone / Toll Free Line ☐
Telephone:	Face to Face Meeting ☐
Address:	Website / Email ☐
Email:	Other (Explain) ☐

Stakeholder Type

State agency ☐	PEB ☐	Private Enterpris ☐	Job Room ☐	NGO ☐
Interest Groups ☐	Industrial Unions ☐	Labor Union ☐	Media ☐	University ☐

2. INTERVIEW DETAILS

Questions about the project:	
Concerns/feedback regarding the project:	
Responses to the views expressed above:	

EK-15

SINGLE LINE DIAGRAM