

# KOVANCILAR BELEDİYESİ



## **KOVANCILAR MUNICIPALITY SOLAR POWER PLANT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**

**SUSTAINABLE CITIES PROJECT – II  
WITHIN THE SCOPE OF ADDITIONAL FINANCING**



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## 1. EXECUTIVE SUMMARY

This Environmental and Social Management Plan (“ESMP”) has been prepared by KOVANCILAR MUNICIPALITY to carry out the necessary studies to evaluate the Environmental and Social Impacts of the Project according to the Sustainable Cities Project and Environmental and Social Standards (“ESS”) for the Solar Power Plant Investment Project. The project is one of the sub-projects within the scope of Sustainable Cities Project-II - Additional Financing (SCP-II-AF), supported by World Bank ('WB') financing in order to support sustainable development in cities in Turkey. Investments to be made within the scope of the project will comply with both the Environmental Legislation of the Republic of Turkey and the World Bank Safeguard Policies. ILBANK will act as financial intermediary to ensure compliance with relevant WB policies and procedures.

### 1.1 Project Summary

Kovancılar Municipality solar energy project, Elazığ Province, Kovancılar District, İsmetpaşa Mah. 0 - 3765 parcel will be located on the land belonging to Kovancılar Municipality on an area of 7.700,00 m<sup>2</sup> and has a power of 553.28 kWp / 500 kWe. With this project, the total consumption consumption of Kovancılar Municipality will be covered. The ratio of production to consumption is approximately 30.13% and the company plans to establish a production facility in accordance with the legislation. The last year consumption of Kovancılar Municipality is 2,915,174 kWh. The Eastern Anatolia Region, where Elazığ is located, is the third region with the highest solar energy potential in Turkey, with an average annual radiation intensity of 1588 kWh/m<sup>2</sup> and a sunshine duration of 2664 hours. The production of the SPP Project is simulated as 878,608.64 kWh. The approximate cost of the project is 387,296 € and the unit price is 700,00 €/kWp, based on market research. The loan to be paid for the project is calculated as 28,647.51 € per year. In addition, the electricity unit price paid by the Authority is 2.9774 TL/kwh, which is 0.104 € at the current exchange rate (1€=28.60 TL). If the project is carried out with equity capital, the amortization period is calculated as 5 years, and if the project is carried out with a World Bank loan, it is calculated as 10 years.

Project production data were calculated using Energy Markets Regulatory Board data, global sunshine duration and PV SYST program. In addition to its contribution to the economy with an annual production of 878,608.64 kWh, the power plant will also prevent 544 tons of carbon emissions due to the fact that solar energy is a renewable clean energy source.

Since the area where the power plant will be established is located 50 meters from the nearest residential area in İsmetpaşa District, the people of the region will not affect the people of the region much. While the power plant is being installed, excavation work, transformer installation and power transmission line with a distance of approximately 160

meters and field work will take approximately 6 weeks. Apart from that, the transportation of materials is not a situation that will adversely affect the people of the region..

## **1.2 Scope**

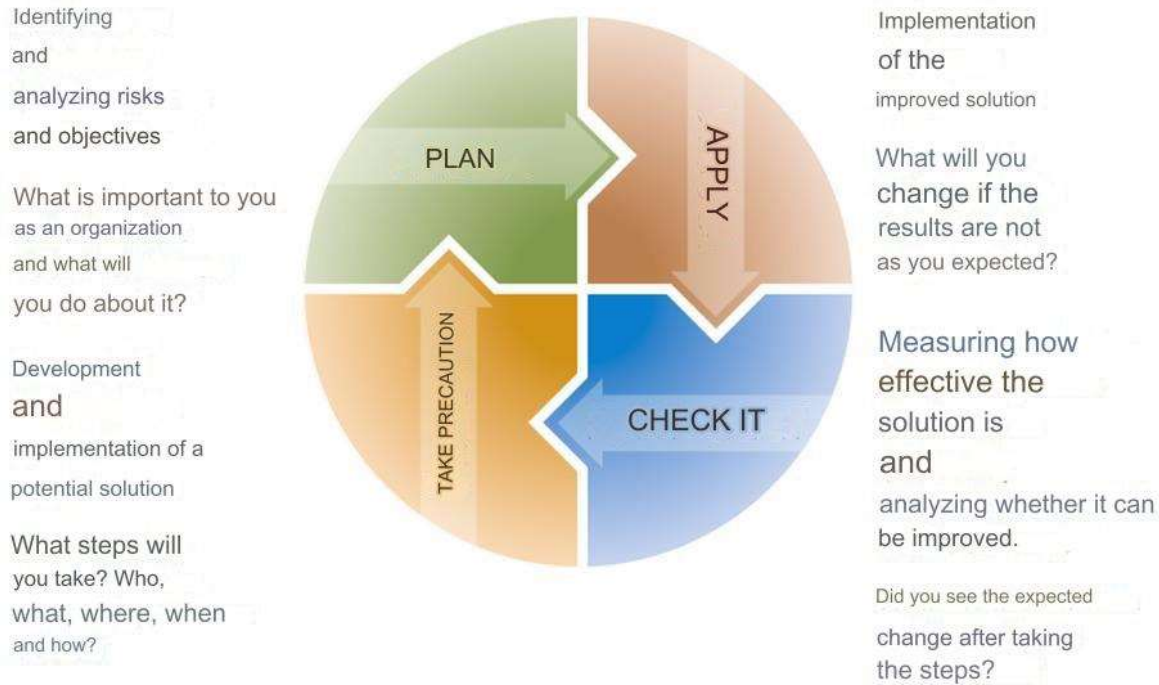
The scope of this document includes all activities to be carried out during the installation, commissioning, operation and maintenance phases of the Project. This document should be considered as a "living" document and should be developed and improved according to the changing needs and conditions of the Project. For this reason, Kovancilar Municipality has tried to develop an approach with this plan in order to fulfill compliance with the standards during the installation and operation phases of the Project and to respond to the needs regarding future duties and responsibilities.

The requirements and commitments set out in this plan apply directly to all Project employees, including Contractor/Subcontractor personnel.

The Environmental and Social Management Plan includes the following management issues prepared as part of this management plan:

- Air Quality Management
- Noisy management
- Contractor Management
- People Health And Security Management
- OP/4.01 Environmental Assessment
- OP/4.04 Natural Habitats
- OP/4.11 Physical Cultural Resources
- OP/7.50 International Waterways
- -OP/4.12 Involuntary Resettlement

Additionally, this ESMP overlaps and links with other Management Plans and Procedures developed for the Project:



**Figure 1. " Plan - Do - Check - Take Action " Principle , Quote : IFC ESMS Implementation Handbook**

### 1.3 Aim

The purpose of this Environmental and Social Management Plan is to:  
Outlining the environmental and social objectives of the project,  
To provide an overview of the E&S Management System that will be implemented to ensure that environmental and social commitments regarding the construction and operation phases of the project are carried out systematically and effectively,

To provide a detailed explanation of the relevant duties and responsibilities of Kovancilar Municipality and its Contractors/Subcontractors,

Creating continuous improvement-oriented programs to achieve goals and objectives,

To ensure the awareness and competence of the staff regarding the policy, goals and objectives,

Conducting periodic internal and external audits, inspections and monitoring,

## 2. 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, Kovancılar Municipality will be able to use the budget it has allocated for 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. Elimination of carbon emissions through environmental policies and international agreements is another factor of this project.

The 553.28 kWp/500 kWe power plant, which will be built on a land of 7.700.00 m<sup>2</sup>, will be built on a land of 7.700.00 m<sup>2</sup>, in line with the permits given by FIRAT Electricity Distribution Joint Stock Company and Elazığ Municipality, İsmetpaşa Distribution Center, which is fed from the Ferrochrome Substation located at a distance of 160 m, to the Breaker Output Cell in the Distribution Center, which will be established by the mass housing administration located at the exit of Fatih District, It will be connected by making an underground transmission line. Permissions have been obtained for this. The land in question is treasury land with the allocation of energy transmission lines and transportation roads, and there will be no need for expropriation. All of the power transmission lines will be underground. The necessary approvals in this regard have been obtained from Kovancılar Municipality. The relevant approval letters are presented in Annex.5. The EIA Not Required document of the project is included in Annex-3.



**Figure 2. Satellite Image of the Area Where the Project Will Be Done**

The project area was completed in accordance with all relevant regulations by taking precautions against natural disasters such as earthquakes and floods, and consists of an area of approximately 7,700.00 m<sup>2</sup>. The Solar Power Plant layout plan is presented in Annex-4.





Figure 3. Energy Transmission Line

## 2.1 LAND ACQUISITION

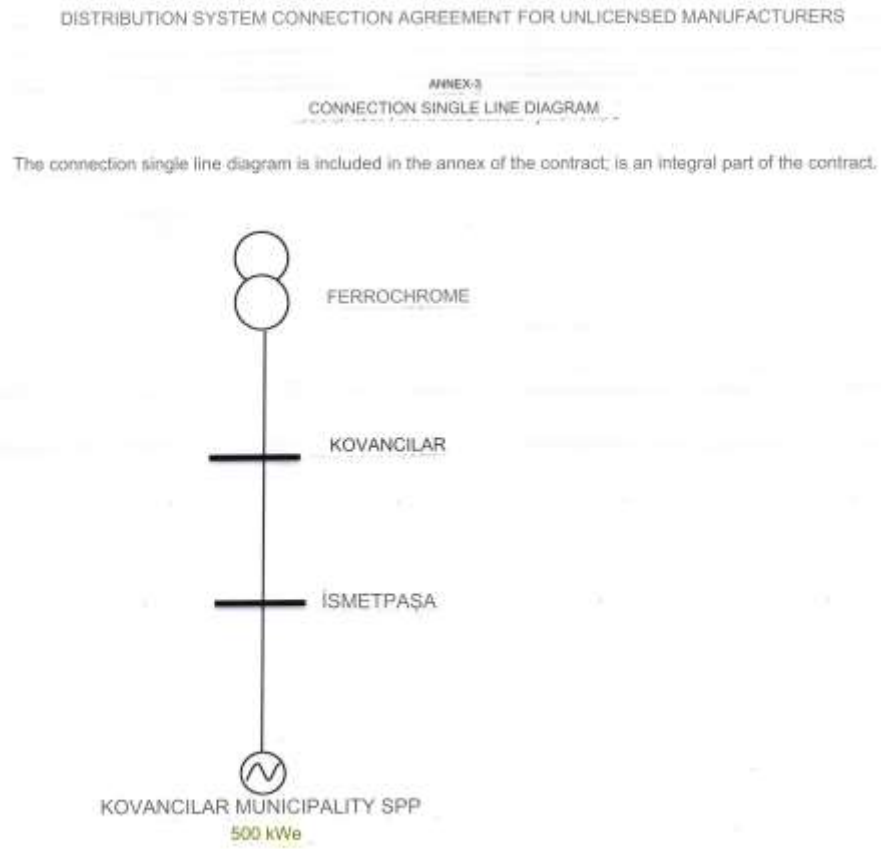
Project-related land acquisition or restrictions on land use may result in physical displacement (relocation, loss of residential land, or loss of shelter), economic displacement (loss of sources of income or other means of livelihood as a result of loss of land, assets, or access to assets), or both. it could be. The term "involuntary resettlement" refers to these effects. Resettlement is considered involuntary when affected individuals or communities do not have the right to reject land acquisition or land use restrictions that result in displacement.

In-field works and transmission line works do not disturb the local people. The transmission line is an overhead line and the poles and line route to be used for the line do not pass through private land. There is no action regarding individuals in the expropriation of the transmission line. (See Annex 5 and Figure 3)

The installation process is planned to be 12 weeks. The working order will be created by taking requests and complaints during the installation phase and it will be ensured that the people of the region are not victimized. Apart from this, it is the responsibility of the contractor, under the control of the municipality and the consultant, to ensure that the installation and other workers do not cause any disturbing situation to the citizens of the region, such as noise and waste, during the installation process.

Relevant approval letters are presented in Annex 5.





**Figure 4. ENH Single Line Diagram of the Project**

### 3. ENVIRONMENTAL AND SOCIAL SCANNING

Within the scope of the environmental and social scanning study carried out within the scope of the project (Annex 6), the risk matrix that may occur if the project is commissioned and put into operation has been discussed and prevention and mitigation strategies have been determined. The findings obtained as a result of environmental and social screening (See Annex 6) include occupational health and safety, public health, labor flow, air quality, noise level, waste management, wastewater management, etc. It addresses issues such as and the strategies to be implemented to minimize these impacts are presented in the Environmental and Social Management Plan section. In addition, the concepts of "accept, share the risk, reduce the impact and frequency, avoid" for risks are emphasized and the steps to be taken to manage the risks are given below. According to the World Bank's Environmental Assessment for Operational Policy (OP 4.01), projects are classified as Categories A, B and C.

As a result of environmental and social screening, risk categorization was evaluated and Category B was determined.

If the proposed project is possible, the 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 risks that may arise from hazards and taking the necessary precautions. In our country, thanks to the Occupational Health and Safety Law No. 6331 , there must be a Risk Assessment Guide in order to protect the safety of workplaces and the health of employees.

During the preparation of the Risk Assessment Guide, a Checklist and Risk Table are included. The Checklist is easy to use and understand . It allows predetermined points to be checked by giving only Yes or No answers.

The Checklist, prepared for the convenience of the user in terms of Occupational Health and Safety, includes preliminary analysis, project planning and design, tests and commissioning, and finally the operation of the power plant. In the stages examined, technical reasons predominate, 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.

The Risk Table, which is detailed in terms of Occupational Health and Safety, is more comprehensive than the Checklist. 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, hazards and risks that may arise from 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, the measures taken are appropriate; otherwise, the measures taken are insufficient and the measures must be increased.

The prepared Risk Assessment Table must be used during 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 case, the risk value is above the threshold value. This situation is valid when sufficient technological development cannot be achieved or the technology is not effective.

#### 4. LEGAL AND INSTITUTIONAL FRAMEWORK

There is sufficient legal and administrative basis in Turkey for environmental and social management during the implementation of development projects. In the ESMP study, both Turkey and the World Bank environmental and social policy documents and guides are taken into consideration. Looking at the institutional arrangement, Ministries and Organizations have established environmental and social branches for their own development work. The main legislation regarding the project is the Environmental Law dated August 1983 (amended by Law No. 5491 dated 26 April 2006). Many regulations and decrees have been put into effect within the scope of the Environmental Law. 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 types of projects for which an EIA report is required and the specific topics that need to be addressed in different cases are defined in the EIA Regulation No. 31907 dated 29.07.2022 issued by the Ministry of Environment and Urbanization. In addition to the EIA Regulation, other regulations regarding environment, health and safety and social issues are basically as follows:

- Regulation on Water for Human Consumption No. 25730 dated 17.02.2005
- 02.04.2015 history And 29314 number \_ Waste Management Regulation
- Zero Waste Regulation No. 30829 dated 12.07.2019
- dated 26.06.2021 and numbered 31523 Packaging Waste Control Regulation
- Industrial Air Pollution Control Regulation
- 06.06.2008 dated And 2 6 898 numbered Air Quality Assessment and Management Regulation
- Exhaust Gas Emissions Control Regulation No. 30004 dated 11.03.2017
- 04.06.2010 history And 27601 numbered Environmental Noise Control Regulation
- 31.08.2004 history And 25569 numbered Regulation on the Control of Waste Batteries and Accumulators
- Medical Waste Control Regulation No. 29959 dated 25.01.2017
- 18.03.2004 History And 2 5 406 Numbered Regulation on Control of Excavation Soil, Construction and Demolition Waste
- date 08.06.2010 And 27605 numbered Regulation on Control of Soil Pollution and Point Source Contaminated Sites
- Regulation on the Protection of Employees from Noise-Related Risks
- 09.12.2003 history And 25311 numbered Occupational Health and Safety Regulation
- Regulation on the Use of Personal Protective Equipment in Workplaces dated 02.07.2013 and numbered 28695
- Regulation on Noise Emission in the Environment Created by Equipment Used in Open Areas dated 30.12.2006 and numbered 26392

- Labor Law No. 4857
- Environmental Law No. 2872
- Expropriation Law No. 2942 dated 04.11.1983

## 5. INITIAL CASE DATA

The project area was completed in accordance with all relevant regulations by taking precautions against natural disasters such as earthquakes and floods, and consists of an area of approximately 7,700.00 m<sup>2</sup>.

The area where the power plant will be installed has residences in the İsmetpaşa neighborhood, 50 meters away from the nearest residential area. (Figure.2) While the power plant is being established, excavation work, transformer installation, transmission line with a distance of approximately 160 m and field work will take approximately 6 weeks. Apart from that, the transportation of materials does not have a negative impact on the local people.

**Agricultural Areas:** The project area does not remain in agricultural areas.

**Forested Areas:** The area where the project area is located does not fall within the borders of the forest area.

**Recreation:** There are no recreation areas in and around the project area.

**Water Resources:** Keban Dam Lake is 45 km northwest of Elazığ Province and 65 km northeast of Malatya Province, and was built around Keban District, 10 km further southwest from the confluence of the Karasu and Murat rivers. The main stream of the lake is the Euphrates River. The river is formed by the merger of the Murat and Karasu rivers, 8-10 km north of the Keban Dam crest . It is a region rich in underground water reserves. Kapiaçmaz Stream , which flows from north to south, passes through Kovancılar District.

**School, Dormitory, Touristic Item, Areas with High Landscape Value, Hospital, etc.:** The nearest girls' Quran course to the project area is located approximately 150 m away, the nearest school is approximately 250 m away, and the nearest health center is 350 m away.

**Industrial Zone:** The area where the project site is located is not located within the industrial zone.

**Natural Natural Areas, National Park Areas, Wild Animal Production Areas:** The area where the project site is located is not included in Natural Natural Areas, National Park Areas, Wild Animal Production Areas.

## Sunbathing Condition



Figure 5. Elazığ Kovancilar Sun Map

Elazığ province has an annual sunshine duration of 2,956 hours and a radiation value of 1,588 KWh / m<sup>2</sup>. It ranks important in terms of electrical energy production efficiency with the effect of technical, geographical and climate parameters.

Based on twenty-year temperature averages in Elazığ Province, the annual average temperature is 9.4°C. The highest values are measured in July. The highest temperature in the province was measured as 42.4°C (in July). January is seen as the lowest value measurement criterion. The minimum value was measured as -22.6°C (in January).

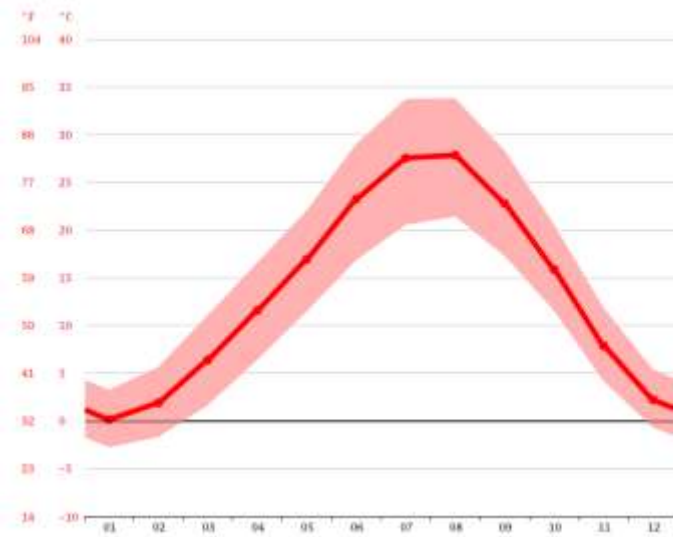


Figure 6. Elazığ Province Kovancilar Town sunbathing Datas

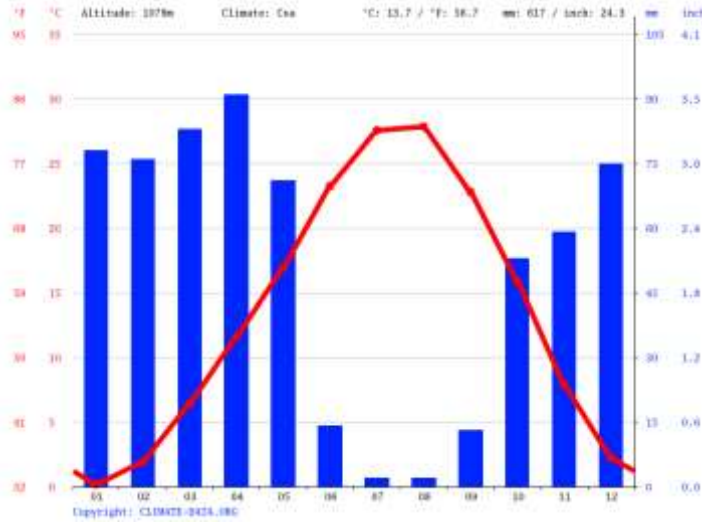


Figure 7 Kovancilar District Temperature Change Graphs

The climate of the district has a warm characteristic of the continental climate. Especially after the construction of the Keban and Karakaya dams on the Euphrates River , a significant warming was observed in the climate. The winter season is quite warm in the villages located on the banks of the Keban Dam in the plain next to the district center. Snowfall is not very effective. Most of the precipitation that generally falls as rain falls in the spring. The average rainfall amount is around 500 – 600 millimeters. The hottest month of the year is July. The highest temperature is 39-40 degrees. In February, the coldest period of the year, the lowest temperature is between minus 20 and 25 degrees.

#### Agriculture and animal husbandry

The residential area of the district consists of flat land. Agriculture is carried out in an area of 400,000 decares of the total land in the district, and only a small percentage of this land, such as 5%, can be used for irrigated agriculture. In the district, the cultivation of agricultural lands is mostly focused on grain and beet cultivation, and the cultivation of Forage Crops, which are the main pillars of Livestock Breeding, is encouraged. Since the area where the power plant will be established is located 50 meters away from the nearest residential area, İsmetpaşa District, it will not affect the local people much. While the power plant is being established, excavation work, transformer installation, energy transmission line with a distance of approximately 160 meters and field work will take approximately 6 weeks. Apart from that, the transportation of the materials will not have a negative impact on the local people. Kovancilar Municipality solar energy project, Elazığ Province, Kovancilar District, İsmetpaşa Mah. It will be located on land belonging to Kovancilar Municipality on parcel 0-3765, and its population in 2022 is 2,092 people. This population consists of 1,039 men and 1,053 women. The population of KOVANCILAR consists of 38,913 people. (Source: Turkish Statistical Institute)



## 6. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental Social Management Plan will include:

- ***Decrease***
  - In the ESMP, measures and actions that reduce possible negative environmental and social impacts to acceptable levels and comply with the mitigation hierarchy are determined. Compensatory measures, if any, will be included in the plan. Especially in the ESMP
    - (i) expected adverse environmental and social impacts are identified and summarized (including workforce risks, occupational health and safety (OHS), land acquisition, biodiversity, involuntary resettlement, community health and safety, vulnerable groups and cultural heritage);
    - (ii) equipment descriptions and operating procedures are described for each mitigation measure and situation – together with technical details – including the type of impact to which it relates and the conditions under which it is required (e.g. permanent or unexpected) ;
    - (iii) the project (e.g. involuntary resettlement, labour, OSH, community health and safety, stakeholder engagement or cultural heritage) are considered and consistent with these.
- ***Tracing***
  - The ESMP sets monitoring objectives and specifies the type of monitoring, explaining their connection to the impacts assessed in the environmental and social assessment and the mitigation measures described in the ESMP . Specifically, the monitoring section of the ESMP includes; (a) a specific description and technical details of the monitoring measures, including parameters to be measured, methods to be used, sampling locations, frequency of measurements, limits of detection (where appropriate) and definition of thresholds indicating that corrective action is required; and (b) (i) specific mitigation measures Monitoring and reporting procedures to ensure early detection of conditions that require the use of a mitigation system; and (ii) to obtain information on the progress and results of mitigation efforts.
- ***Implementation Regulation, Capacity Building and Training***
  - the specific definition of institutional arrangements that determine which party is responsible for carrying out mitigation and monitoring measures is included in the ESMP (e.g. for operation, control, enforcement, monitoring of implementation, corrective action, financing, reporting and staff training).
  - the ESMP includes recommendations for identifying or expanding the parties that will be responsible for staff training and any additional measures that may be

required to support the implementation of mitigation measures, and any other recommendations regarding environmental and social assessment .

- ***Application Schedule and Cost Estimates***

- For all three topics (mitigation, monitoring and capacity building), (a) the measure implementation program that should be carried out within the scope of the project, showing its phases and coordination with the overall project implementation plans, and (b) capital cost and recurring cost estimates and the implementation of the ESMP Funding sources are included in the ESMP . These figures are also integrated into total project cost tables .

## **6.1 Water Management**

The water needs of 8 personnel who will work within the scope of the project will be met , and in parallel, wastewater will be generated due to the personnel. The resulting wastewater will be collected in the septic tank and vacuumed with a sewer truck.

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 once a year and will be in accordance with the Occupational Health and Safety law No. 6331.

The drinking water needs of the personnel who will work during the construction and operation phases of the project will be met by demijohns, and the potable water needs will be met from the network. In addition, the deionized water needed for cleaning the panels will be purchased.

The drinking water needs of the personnel who will work during the construction and operation phases of the project will be met by demijohns and the drinking water need will be met by purchasing, in accordance with the provisions of the "Regulation on Water for Human Consumption", which came into force after being published in the Official Gazette No. 25730 dated 17.02.2005

**Table 1. Building And Business In stages To be used Water Supply Plan**

Project Period	Water use	The amount of water	Water Supply Place	Amount of Wastewater	Wastewater Disposal Method
Building	Drinking and potable water for 8 people who will take part in the land preparation phase	8 people x 200 lt / person-day* = 1.6 m <sup>3</sup> / day	Drinking water that will be needed during the land preparation and construction phase will be supplied from demijohns, and potable water will be supplied from the network by connecting to the network line located near the site.	8 people x 200 lt /person-day* = 1.6 m <sup>3</sup> /day*	It will be collected in the septic tank (3m x 3m x 2m) and will be vacuumed with a sewer truck at least once every 6 months or when it is full.
Business	Cleaning of Photovoltaic Panels (1 time per year)	4 m <sup>3</sup> /year deionized water (0.01 m <sup>3</sup> /day)	Panel cleaning will be done once a year with chemical-free water, except on rainy days. Domestic water will be provided by purchasing.	-	During the panel cleaning process, water will evaporate and no wastewater will be generated. Any remaining water on the panel will be wiped off with a dry cloth.
	Drinking and potable water for 1 person who will take part in the operation phase	1 person x 200 lt / person-day* = 0.2 m <sup>3</sup> / day	Drinking water needed during the operation phase will be supplied from demijohns, and potable water will be supplied from the network.	1 person x 200 lt /person-day* = 0.2 m <sup>3</sup> /day*	It will be collected in the septic tank (3m x 3m x 2m) and will be vacuumed with a sewer truck at least once every 6 months or when it is full .

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 Intended 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.

## **6.2 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 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 System will be established and data of the waste collected for the previous month will be entered into the Integrated Environmental Information System 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 ELAZIĞ in 2018 is 1.16 kg/day, and accordingly, the amount of domestic solid waste to be generated by people who will work during the construction phase of the project is 9.28 kg/day (8 people x 1, 16 kg/person-day) solid waste will be generated.

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.) that will be generated within the scope of the project are subject to the "Waste Management Regulation", "Packaging Waste Control Regulation", "Zero Packaging Waste Control 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" . In addition, employees will be warned that it is prohibited to discharge it into seas, lakes and similar receiving environments, streets and forests within the scope of Article 5 of the Regulation in question .

### **6.2.1 Waste panels**

Materials such as panels, switches, solar regulators, inverters, etc., which deteriorate and become idle during or after the said activity, 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 and disposal. Wastes that cannot be recycled will be given to licensed companies for disposal in accordance with the conditions specified in the "Waste Management Regulation" published in the Official Gazette dated 02.04.2015 and numbered 29314.

### **6.2.2 Waste Accumulator And 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 (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 No. 25569 dated 31.08.2004, will be complied with.

### **6.2.3 Medical Wastes**

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  $\frac{3}{4}$  and their mouths will be tightly tied, and when deemed necessary, each bag will be placed in another bag with the same features to ensure absolute sealing.

Within the scope of the wastes to be generated within the scope of the project, "Waste Management Regulation" Article 9. Within the framework of the obligations of the waste producer and the waste owner, the waste producer;

- a) Taking the necessary measures to minimize waste production,*
- b) Collecting waste separately and storing it temporarily,*

c) To prepare and present the waste management plan that it is obliged to prepare for the waste it produces and the prevention and reduction of waste,

c) Keeping records for the wastes it produces in line with the principles determined by the Ministry and making appropriate packaging and labeling,

d) To prepare municipal wastes for collection by keeping them closed in places where they are produced, such as residences and workplaces, in a way that does not harm the environment and human health, as determined by the institutions and organizations that are obliged to collect, transport and dispose of them within the scope of the relevant legislation,

e) To certify that the wastes identified with the mark (M) in Annex-4 of this Regulation and which are claimed not to contain the properties specified in Annex-3/B are non-hazardous through analyzes carried out by laboratories authorized by the Ministry,

f) Obtaining permission from the provincial directorate for temporary storage areas for which permission is required in accordance with the provisions of this Regulation,

g) To send its wastes to waste processing facilities that have received permission/environmental license in accordance with the provisions of this Regulation and the principles determined by the Ministry,

g) Fill in the waste declaration form, including the information of the previous year, using online applications prepared by the Ministry, starting from January until the end of March at the latest, approve it, print it and keep a copy for five years, while military units and institutions must submit a written declaration form. To send it to the Ministry by the Ministry of National Defense and the General Staff within the specified period and to keep a copy of it for five years,

h) To send to waste processing facilities using (National waste transportation form) for wastes for which the use of (National waste transportation form) is mandatory and to comply with the relevant work and procedures, (Registering to the environmental information system and the waste will be sent via WASTE MANAGEMENT APPLICATION

\*) i) Waste of the waste processing facility If it does not accept it, by directing the carrier to another facility or by having the carrier bring back the waste and ensuring that the waste is processed in a suitable facility,

i) To ensure the training of its employees who are responsible for operations such as collection, transportation and temporary storage of the wastes they produce, and to take all kinds of measures regarding health and safety,

j) In order to prevent pollution resulting from accidental or intentional dumping of waste and similar events, restoring the scene of the incident within one month from the moment the incident occurred, depending on the type of waste, and covering all expenses,

k) To inform the provincial directorate in case of accidental or intentional waste spillage and similar events and to submit a report containing information regarding the accident date, accident location, type and amount of waste, accident cause, waste processing type and rehabilitation of the accident site to the provincial directorate within 3 business days. ,

l) To apply to the Ministry to obtain compliance for wastes with the characteristics defined in the first paragraph of Article 19 of this Regulation, which can be considered as by-products,

m) To cover the expenses incurred for determining the quality, collection, transportation and processing of waste,



obliged to act in accordance with these provisions.

#### **6.2.4 Excavation waste**

Within the scope of the project, excavation will be carried out during the land preparation and construction phase, opening of the energy transmission line, arrangement of the land, placement of machinery and equipment, and excavation waste will be generated in this context. Excavation waste will be used as backfill material.

The machinery and equipment to be installed within the scope of the project, excavation will be carried out at a depth of 0.2 m in an area of approximately 7,600 m<sup>2</sup>.

According to this;

$7,600 \text{ m}^2 * 0.2 \text{ m} = 1,520 \text{ m}^3$  excavation will occur.

After the excavation work for the energy transmission line, the opened areas are closed by using the same soil again. Therefore, no excavation occurs from the transmission line work.

All excavation 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 addition, during the work 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 be followed. 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.

#### **6.3 Emission**

Within the scope of the project, excavation will be carried out during the land preparation and construction phase, opening of the energy transmission line, arrangement of the land, placement of machinery and equipment, and in this context, dust emissions will occur due to the dismantling of the material, loading it into trucks, temporary unloading and storage in the determined area.

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 (amendment, Official Gazette No. 29211 dated 20.12.2014). It was calculated using "Emission Factors to be Used in Dust Emission Mass Flow Calculations".

Table 2. Mass Flow Calculations Emission Factors

PROCESS	EMISSION FACTOR	
	Uncontrolled	controlled
Soil Removal	0.025kg/ton	0.0125 kg/ton
Soil Loading	0.01kg/ton	0.005kg/ton
Transportation of Materials (Total distance round trip)	0.7kg/km	0.35kg/km
Unloading	0.010	0.005
Storage	5.8	2.9

The total EIA area of the project is 7,700.00 m<sup>2</sup> and 770 m<sup>3</sup> (93,125.44 m<sup>2</sup> x 0.1 m) of topsoil will be stripped. It is planned to strip the topsoil within 7 days.

Assuming the topsoil density is 1.5 tons/m<sup>3</sup>, 770 m<sup>3</sup> x 1.5 tons/m<sup>3</sup> = 1.155 tons of topsoil will be stripped.

1,155 tons / 7 days / 8 hours = 20,625 tons/ hour of topsoil will be formed.

#### **Vegetable Soil Removal and Loading to Vehicles**

##### Dismantling

Within the scope of the project, a total of 20,625 tons/ hour of topsoil will be removed 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

$$\begin{aligned} \text{Dust Emission (E}_1\text{)} &= [20.625 \text{ tons/ h} \times 0.0125 \text{ kg/ton}] \\ &= \mathbf{0.25 \text{ kg/hour}} \end{aligned}$$

##### Uncontrolled

$$\begin{aligned} \text{Dust Emission (E}_1\text{)} &= [20.625 \text{ tons/ h} \times 0.025 \text{ kg/ton}] \\ &= \mathbf{0.51 \text{ kg/hour}} \end{aligned}$$

The mass flow rate of the emission that will occur is calculated below using the controlled and uncontrolled emission factor.

##### controlled

$$\begin{aligned} \text{Dust Emission (E}_2\text{)} &= [20.625 \text{ tons/ h} \times 0.005 \text{ kg/ton}] \\ &= \mathbf{0.10 \text{ kg/hour}} \end{aligned}$$

##### Uncontrolled

$$\text{Dust Emission (E}_2\text{)} = [20.625 \text{ tons/ h} \times 0.01 \text{ kg/ton}]$$

$$= 0.20 \text{ kg/hour}$$

- Transportation

Assuming that the materials are transported by a truck with a carrying capacity of 20 tons, they will be transported to the storage area 100 meters away 3 times a day. The mass flow rate of the emission that will occur is calculated using the controlled and uncontrolled emission factor and is given below.

controlled

$$\begin{aligned} \text{Dust Emission (E}_3\text{)} &= 0.35 \text{ kg/km} \times (2 \times 0.10 \text{ km/voyage}) \times (3 \text{ trips/day}) \times (1 \text{ day/8} \\ \text{hours)} &= 0.02 \text{ kg/hour} \end{aligned}$$

Uncontrolled

$$\begin{aligned} \text{Dust Emission (E}_3\text{)} &= 0.7 \text{ kg/km} \times (2 \times 0.40 \text{ km/voyage}) \times (3 \text{ trips/day}) \times (1 \text{ day/8} \\ \text{hours)} &= 0.04 \text{ kg/hour} \end{aligned}$$

Emptying

controlled

$$\begin{aligned} \text{Dust Emission (E}_4\text{)} &= [20.625 \text{ tons/ h} \times 0.005 \text{ kg/ton}] \\ &= 0.103 \text{ kg/hour} \end{aligned}$$

Uncontrolled

$$\begin{aligned} \text{Dust Emission (E}_4\text{)} &= [20.625 \text{ tons/ h} \times 0.01 \text{ kg/ton}] \\ &= 0.20 \text{ kg/hour} \end{aligned}$$

*of material :*

$$\begin{aligned} \text{Excavation storage area} &= 192 \text{ m}^3 / 3 \text{ m} \\ &= 64 \text{ m}^2 \\ &= 0.0064 \text{ ha} \end{aligned}$$

controlled

$$\begin{aligned} \text{Dust Emission (E}_5\text{)} &= 0.0064 \text{ ha} \times 2.9 \text{ kg/ ha.day} \times (1 \text{ day/24 hours}) \\ &= 0.001 \text{ kg/hour} \end{aligned}$$

**uncontrolled**

$$\begin{aligned}\text{Dust Emission (E}_5\text{)} &= 0.0064 \text{ ha} \times 5.8 \text{ kg/ ha.day} \times (1 \text{ day}/24 \text{ hours}) \\ &= \mathbf{0.002 \text{ kg/hour}}\end{aligned}$$

$$\begin{aligned}\textbf{Total Emission (Controlled):} &= \text{E}_1 + \text{E}_2 + \text{E}_3 + \text{E}_4 + \text{E}_5 \\ &= \mathbf{0.25 + 0.10 + 0.02 + 0.103 + 0.001} \\ &= \mathbf{0.474 \text{ kg/hour}}\end{aligned}$$

$$\begin{aligned}\textbf{Total Emission (Uncontrolled):} &= \text{E}_1 + \text{E}_2 + \text{E}_3 + \text{E}_4 + \text{E}_5 \\ &= \mathbf{0.51 + 0.20 + 0.04 + 0.20 + 0.001} \\ &= \mathbf{0.951 \text{ kg/hour}}\end{aligned}$$

"Regulation on the Control of Industrial Air Pollution" (amendment, Official Gazette No. 29211 dated 20.12.2014), which came into force after being published in the Official Gazette No. 27277 dated 03.07.2009, includes "values representing air pollution, measurements and It is stated that there is no need to determine the air quality values obtained, the calculated contribution to air pollution values and the total pollution values formed by these values, if the dust emissions emitted from places other than the chimney are less than 1 kg / hour .

Considering the situation where the dismantling, loading, unloading, transportation and storage of the excavation to be excavated within the scope of the land preparation and construction works of the project are carried out at the same time (worst case scenario), the dust emission that will occur has been calculated above, and the calculated value for the expected dust emission is **0.474 kg for the controlled situation. /hour , and 0.951 kg/hour for the uncontrolled situation**, there was no need for air quality modeling within the scope of the construction phase of the project.

During the excavation and filling operations to be carried out within the scope of the activity, the matters specified in Annex-1 of "Regulation on the Control of Industrial Air Pollution" and the Air Quality Assessment and Management Regulation will be complied with in line with the World Bank EHS Guides during the work in the taking, loading, transportation and unloading of materials.

*Exhaust Gas Emission*

Within the scope of the project, exhaust gas emissions will occur from the vehicles to be used while bringing the photovoltaic panels, materials and equipment to the KOVANCILAR SPP land, and will have a slight impact on the existing air quality. In this regard, in order to minimize the exhaust gas emissions resulting from the vehicles to be used within the scope of the project, the provisions of the "Exhaust Gas Emission Control Regulation", which came into force after being published in the Official Gazette dated

11.03.2017 and numbered 30004, will be complied with, and vehicles that have been maintained and repaired will be used.

#### 6.4 Noisy

During the installation of the project, it is inevitable that short-term noise will occur during transportation and assembly periods that will affect the environment. Appropriate time periods can be selected to reduce this to minimum levels. Since the power plant will be established 50 meters away from the nearest settlement , there may be short-term discomfort to the people living in the surrounding area. Excavation operations will be carried out while the energy transmission line is being constructed. Total transmission line 160 Considering that m 7-10 It is likely to be completed in a matter of days. During the work, regular monitoring should be done to ensure that field personnel are sensitive to this issue.

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. A complaint mechanism can be applied regarding these issues .

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 tables and graphics.

**Table 1. Equivalent Noisy of your level To the distances According to Distribution**

Distance	40	50	100	200	300	400	500	750	1000
Equivalent noisy level	64.4	62.3	56.0	49.3	45.3	42.4	40.1	35.8	32.8

**Table 2. Industry facilities For Environmental Noisy Border Values**

Fields	L daytime( dBA )	L evening ( dBA )	L night ( dBA )
to the noise sensitive from uses education, culture And healthfields with summer house and camp of their places density is fields	60	55	50
Commercial buildings with to the noise sensitive uses found togetherdensely populated areas aspect is located fields	65	60	55

Commercial buildings with to the noise sensitive uses together is located from those who receive workplaces busy aspect is located fields	68	63	58
Industrial fields	70	65	60

According to this situation, in theory, the noise level that will occur when all machinery and equipment are operating in the activity area is likely to be above the limit values when compared to the table above when it reaches the nearest residential area. However, working hours are made without affecting the quality of life of the local people. In the calculations made, the noise level caused by the work machines used was determined according to the distances. The noise level that will occur depending on the machines to be used during the operation phase has been calculated. The noise level that will occur during transformer, panel and inverter operation is calculated as 25 dB . .Noise levels of the equipment to be used during the preparation of the land within the scope of the project will be complied with the provisions of the "Regulation on Noise Emission in the Environment Created by Equipment Used in Open Areas" , prepared by the Ministry of Industry and Trade and published in the Official Gazette dated 30.12.2006 and numbered 26392.

During the activity, the relevant provisions and limit values of the "Regulation on Evaluation and Management of Environmental Noise", which came into force after being published in the Official Gazette dated 04.06.2010 and numbered 27601, will be complied with.

## 6.5 Projection Effect

Another effect of solar power plants 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, electrical production efficiency increase for absorption -most top level subtract and reflection -most member download for it is designed. Reflection limit for photovoltaic panels dark colorful light sucking from materials has been made and reflection inhibitor covering with covered. Nowadays panels from sun of your light on average 2% as much as it reflects.

US Federal Aviation According to the FAA , current sun of panels black from asphalt A little more light reflected water with their mass same at the level And naked soil , plant cover , roofs , glass, snow or of metal A lot under is in the direction of .

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



settlements. A highway passes right at the border of the project area, and in case of a glare effect on this road, the above-mentioned measures will be taken.

## **6.6 Bird Migration to your ways According to Evaluation**

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.

When trying to make an evaluation about bird species and their habitats in any area, an important point to consider is whether the areas in question are frequently visited by birds or used for purposes such as resting, feeding or staying overnight while passing through or during the migration journey. It is revealed that it is not used. As it is known, Türkiye; It is rightly described as a "country of migration" in terms of birds. Some of the world's most important bird migration routes pass through the borders of Türkiye.

While one of these routes passes from the west of the Keban Dam, 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. Since our facility is within the bird migration routes in the Solar Power Plant area, sonic and ultrasonic bird repellent devices will be placed.

## **6.7 Work health And Security**

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 the relevant regulations of the occupational health and safety law No. 6331 are strictly followed. In order to minimize the risk of accidents that may arise from the machinery and equipment to be used during the construction phase of the project, the operator will be obliged to fulfill the health and safety issues within the scope of the "Occupational Health and Safety Regulation in Construction Works", which came into force after being published in the Official Gazette dated 05.10.2013 and numbered 28786.

In order to prevent all possible risks to human health at all stages of the project, all health and safety rules specified in the Occupational Health and Safety Law No. 6331 and relevant regulations published in the Official Gazette No. 28339 dated 20.06.2012 will be followed.

Work accidents, fire, etc. that may occur in the project area. to respond to emergencies; In accordance with the current regulations and laws, fire extinguishing tools and equipment (fire extinguishers, buckets, shovels, etc.) in the project area , first aid materials, etc. in the quantities specified in the relevant regulations. will be kept and placed in suitable places

where everyone can easily reach them. Within the scope of the project, the Emergency Response Plan, which will be prepared to protect occupational safety and worker health, will be operational in emergencies such as natural disasters, fire and sabotage.

Table 3. Measures plan

SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
WASTE WATER	<p><b>Land Preparation and Construction Phase;</b></p> <p>Domestic wastewater will be generated due to the personnel to work.</p>	<p>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 .</p>	<p>Within the scope of the planned project, the water need of 8 personnel who will work in the construction and land preparation phase is <b>1.6 m<sup>3</sup>/day</b> , and the amount of wastewater it will create is <b>1.6 m<sup>3</sup>/ day</b> . Wastewater from people who will work in the planned project will be collected in the septic tank and vacuumed with a sewer truck .</p>

SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
SOLID WASTE- HAZARDOUS WASTE- MEDICAL WASTE- PACKAGING WASTE	<p><b>Land Preparation and Construction Phase</b></p> <p>Municipal waste caused by personnel working in the project area</p> <p>Packaging waste from personnel</p> <p>In addition, there are hazardous waste, waste batteries and accumulators.</p>	<p>When not disposed of, it causes contamination of underground and surface water resources, soil pollution and odor problems for human health.</p>	<p>Municipal waste will be generated due to a total of 10 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.</p>
			<p>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 within the framework of the relevant regulation by the 15th of each month.</p> <p>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.) that will be generated within the scope of the project are subject to the "Waste Management Regulation", "Packaging Waste Control Regulation", "Zero Packaging Waste Control 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" .</p>

SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
	<p><b>Operation Phase</b></p> <p>It is possible for panels to become damaged/idle.</p>		<p>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.</p> <p>However, in accordance with the waste hierarchy, recycling of waste will be evaluated before disposal. Recycling of panels is given in detail below.</p> <p>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.</p> <p>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 among the Electrical and Electronic Equipment Waste. Recycling 1-ton silicone in the PV module corresponds to approximately 370 kg CO<sub>2</sub> equivalent, which increases to approximately 800 – 1200 kg CO<sub>2</sub> equivalent when produced with 100% recycled raw materials . Compared to landfilling, the recycling scenario has less impact on the environment.</p>

SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
AIR POLLUTION	<p><b>Land Preparation and Construction Phase</b></p> <p>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.</p>	<p>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.</p>	<p>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.</p>
			<p>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.</p> <p>At all stages of the project, the provisions of the "Regulation on the Control of Industrial Air Pollution" (amendment published in the Official Gazette No. 29211 dated 20.12.2014 ) , which came into force after being published in the Official Gazette dated 03.07.2009 and numbered 27277 , will be complied with.</p> <p><i>the "Exhaust Gas Emission Control Regulation" and its provisions</i> , 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 .</p>



SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
NOISE AND VIBRATION	<b>Land Preparation, Construction and Operation Stages:</b>		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 regulation are not exceeded. Care will be taken to ensure that as few vehicles as possible operate at the same time.
	, noise will be generated from the operation of construction equipment and machinery equipment.	Has negative effects on human health and fauna.	During the construction phase , noise will vary throughout the day, but since the work 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.
			criteria for construction sites " regarding the noise that will occur during the construction phase will be complied with and vehicles with traffic inspections, exhaust measurements and maintenance will be used.
			In cases where the recommended noise levels are exceeded during the construction and operation phases of the project and technical possibilities are insufficient to reduce noise and vibrations at the source, workers will be provided with headgear, headphones, earplugs, etc. specified in the Labor Law No. 4857. Protective clothing and equipment such as will be provided.
			Within the scope of the project, the limit values given in the Environmental Noise Control Regulation will be met.

SOURCE		POSSIBLE EFFECTS	PRECAUTIONS
EXCAVATION AND SOIL POLLUTION	<p><b>Land Preparation and Construction Phase</b></p> <p>During the land preparation and construction phase of the project, excavation residue material will be generated during excavation.</p>	<p>If not disposed of, it causes visual pollution and dust spread.</p>	<p>During the excavation works to be carried out during the land preparation and construction phase, flammable, explosive and hazardous materials will not be used and during the works, the Waste Management Regulation published in the Official Gazette No. 29314 dated 02.04.2015 and the "Circular on the Regulation on the Regular Storage of Waste" No. 2010/16 and 18.03. The provisions of the "Regulation on the Control of Excavation Soil, Construction and Demolition Wastes" published in the Official Gazette No. 25406 dated 2004 will be complied with.</p>

Table 4. Tracing plan

PARAMETER TO BE MONITORED		LOCATION OF THE PARAMETER	MONITORING METHOD	VIEWING FREQUENCY	REASON FOR WATCHING	CORPORATE RESPONSIBILITY	Cost
Ensuring Ground Safety		In the project area	With drilling devices and tools	Pre-Construction	In accordance with the Regulation on Buildings to be Built in Disaster Areas	-Investor	Included in the project budget
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	dust emissions are taken, protecting the environment and employee health, and in accordance with the Air Quality Assessment and Management Regulation	-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	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	-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	-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	-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	-Investor -Contractor	Included in the project budget
	Other Wastes (Battery, Battery, etc.)	In construction sites	Recording the Delivery to Recycling Companies	Continually	In accordance with the Regulation on the Control of Waste Batteries and Accumulators	-Investor -Contractor	Included in the project budget
Occupational Health and Safety		In all studies	Observation and recording, reporting	Continually	Ensuring compliance with Labor Laws and Regulations and World Bank Social and Environmental Standards	-Investor	Included in the project budget
Transport		On-site and off-site roads	observational	Continually	Safety of Life and Property, in accordance with the Highway Traffic Law	-Investor	Included in the project budget
Public Safety		In all studies	Observing whether permissions have been obtained from the relevant institutions within the framework of the legislation	Pre-Construction, Fulfillment of requests from relevant institutions during construction	By law	-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 and Labor Flow	In all studies	Inspection of inappropriate working conditions, child labor, unregistered employment	Continually	Ensuring compliance with Labor Law and Regulations	-Investor	Included in the project budget
Stakeholder Engagement	In all studies	Monitoring communication problems with stakeholders	Continually	In accordance with World Bank Environmental and Social Standards	-Investor	Included in the project budget
Grievance Mechanism	In all studies	Documentation control	Continually	In accordance with World Bank Environmental and Social Standards	-Investor	Included in the project budget
Climate Change	In all studies	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
Impact on Local Economy, Livelihoods and Employment	In all studies	Documentation control	Continually	In accordance with World Bank Environmental and Social Standards ( ESS4: Community Health and Safety)	-Investor	Included in the project budget
Impacts on Vulnerable/Disadvantaged Individuals/Groups	In all studies	Documentation control	Continually	As per World Bank Environmental and Social Standards ( ESS7: Indigenous Peoples/Historically Underserved Traditional Local Groups of Sub-Saharan African)	-Investor	Included in the project budget
Public Health and Safety Community Engagement	In all studies	number and nature of resolved complaints	Monthly	In Requirement of Occupational Health and Safety, Community Health Safety and World Bank Standards	-Investor	Included in the project budget

## **7. STAKEHOLDER ANALYSIS and STAKEHOLDER PARTICIPATION PLAN**

A stakeholder engagement plan is a plan that aims to build strong, constructive and responsive relationships by identifying the parties that may be affected by a planned project, which is necessary to properly manage the environmental and social impacts of a project.

A stakeholder is defined as any individual, organization or group potentially affected by the Project or interested in the Project and its impacts. The purpose of stakeholder identification is to identify stakeholders who may be directly or indirectly, positively or negatively affected by the Project ("affected parties") or who have an interest in the Project ("other interested parties").

A stakeholder can be defined as any person, organization or group that has an interest/stake in the project and its impacts. The purpose of stakeholder identification is to identify and prioritize, for consultation purposes, the project stakeholders who may be directly or indirectly, negatively or positively affected by the project, or who may not be directly affected but may have an interest in the project. All stakeholder groups that are interested in the outcome of the project and that may be affected by or have an impact on the project 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. Stakeholders are categorized by type and status according to the profile the stakeholder has within its social structure.

The purpose of stakeholder engagement is to ensure continuous communication with stakeholders to inform them about project performance, project development and investment plans, and activities to be undertaken during the construction and operation phases of the project, including their implementation. Stakeholder engagement is an ongoing activity throughout the planning, construction, operation and closure phases.

The people living in the settlements close to the project route will be primarily affected by the Project. Local people living in the region and making a living from the region will be primarily affected. In addition, local people living in the nearby settlements will also be indirectly affected.

The stakeholder analysis table documented within the scope of this project is given below .

**Table 5. stakeholder Participation Analysis Table**

<b>Parties Affected by the Project</b>	Neighborhoods and people living in the project area and nearby settlements
<b>Other Interested Parties</b>	World Bank İlbank Ministry of Environment, Urbanization and Climate Change (ÇŞİDB) Energy and Natural Resources Ministry ELAZIĞ Governorship Provincial Directorate of Environment, Urbanization and Climate Change KOVANCILAR District Governorate İlbank Regional Directorate KOVANCILAR Municipality Türkiye Electricity Distribution Inc. Fırat Electricity Distribution Inc. The contractor Advisor
<b>Final Beneficiary</b>	KOVANCILAR Municipality Neighborhoods and people living in the project area and nearby settlements

Within the scope of the Environmental and Social Impact Assessment studies initiated for the Project, the working group and relevant institutions have visited the project area many times and conducted project studies and on-site inspections. During these visits, local people and non-governmental organizations were informed about the project as much as possible and stakeholders' opinions and views were received.

During the construction and operation phases, the Sub-borrower shall keep the following information up to date and accessible, providing information on the development of the Project and implementation under the Project. This information will include:

- Key Project phases and timelines (e.g. obtaining permits, start of project activities, construction timeline, etc.),
- Any project-related disruptions (e.g. road closures, transportation and infrastructure disruptions) as addressed in the ESMP and presented in the GRM,
- Significant consultations/meetings with potential outcomes that could affect the community or local people (see Annex 9 for a sample consultation form); and



- EHS performance (e.g. information on accidents, monitoring results).

### **7.1 Announcements during Project Activities**

The Sub-borrower will notify the muhtar in the impact area two (2) days in advance of any potential temporary road closure during Project activities. Similarly, the Sub-borrower will notify the affected local community two (2) days in advance of the works to be carried out at the Municipality building and/or announcement platforms.

Likewise, businesses, schools and/or hospitals that are likely to be affected by project activities will be notified two (2) days in advance of the works. Activities will be guided by the feedback received from stakeholders to avoid disruption of business operations and/or services.

### **7.2 Detailed Stakeholder Engagement Activities**

For all Category A and B subprojects proposed for WB financing, the Borrower will consult with and take into account the views of project affected groups and local NGOs on the environmental aspects of the project during the Environmental Assessment process. The Borrower shall initiate these consultations as early as possible. For Category B subprojects, consultation with affected groups and other relevant/affected stakeholders is expected at least once after the draft ESMP is finalized. This consultation will include, but not limited to, the following foreseen topics:

- Project Objective,
- Social, environmental and ecological impacts identified to occur on the project,
- Impacts and mitigation or remediation measures being implemented,
- Duties and responsibilities,
- Monitoring and management measures and
- Information about the GRM for the project.

In addition, the Sub-borrower will be responsible for stakeholder engagement as an ongoing process throughout the Project. Identifying and responding to grievances supports the development of positive relationships between projects, the public and other stakeholders. Grievances can indicate growing stakeholder concerns (real or perceived) and can escalate unless they are identified and resolved.

The GRM will be introduced and communicated to stakeholders in an easy-to-understand language and format so that they are familiar with the process, know that they have the right to file a grievance, and understand how the mechanism will work and how their grievance will be handled. In most cases, a grievance will be submitted by a stakeholder or resident by phone, in writing or by meeting with one of the company's grievance officers.

### **7.3 Information Sharing and Stakeholder Engagement in the COVID-19 Process**

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

With respect to information dissemination, the Sub-borrower will seek to communicate reliable and accurate information to all stakeholders by ensuring that information is easily understandable and in a culturally appropriate form and language.

To engage with stakeholders during the pandemic, it is recommended to use, but not limited to, the following tools

- Brochures
- Email
- Notice boards for public use
- Phone calls and messages
- Website of the sub-debtor

In addition, changes in the Sub-Borrower's operations due to COVID-19 that may have an impact on the public will be reported accordingly. These include but are not limited to the following:

- Changes in the project due to COVID-19
- Changes in the delivery of social development programs
- Changes in employment, purchasing from local businesses, etc.
- Timeframe for resolving public complaints
- New or modified communication campaigns for public awareness on COVID-19, coordinated with relevant authorities and based on information from recognized sources such as WHO, the "Guidelines on COVID-19 Outbreak management and Operation" published by the Ministry of Health and the "Interim Recommendation for IFC Clients on Safe Stakeholder Engagement in the Context of COVID-19" published by IFC.

Finally, the Project will consider the new approaches shown in Table.8 for effective engagement during COVID-19.

**Table 8. Stakeholder Engagement Analysis Table**

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Support Responsibility
<b>Official Authorities / Authorities</b> <ul style="list-style-type: none"> <li>• Elazığ Provincial Directorate of Environment Urbanization Climate Change</li> </ul>	<ul style="list-style-type: none"> <li>• Updates on project activities and progress</li> <li>• Local procurement and employment data</li> <li>• About social distancing restrictions and measures related to COVID-19 Updates</li> </ul>	When necessary	Teleconferencing Virtual meetings Written updates Project Owner's website ŞÇM	Sub-obligor
<b>Municipalities / Neighborhoods</b> <ul style="list-style-type: none"> <li>• Elazığ Municipality</li> <li>• Kovancilar Municipality</li> <li>• İsmetpaşa Neighborhood Head</li> <li>• People living in İsmetpaşa Neighborhood and nearby areas</li> </ul>	<ul style="list-style-type: none"> <li>• Necessary updates on project activities and progress</li> <li>• Updates on social distancing restrictions and measures related to COVID-19</li> </ul>	When necessary	Teleconferencing Virtual meetings Written updates Project Owner's website ŞÇM	Sub-obligor

Stakeholder Groups	Topics	Frequency	Methods and Materials	Lead and Support Responsibility
<b>Internal Stakeholders</b> <ul style="list-style-type: none"> <li>All employees</li> </ul>	<ul style="list-style-type: none"> <li>Updates on project progress and planning</li> <li>Changes to the project's operational procedures and emergency and response plans</li> <li>Guidance on changes in occupational health and safety and working conditions and access to subsidies (if any)</li> <li>Measures to be taken in case of COVID-19 symptoms</li> <li>Locations of centers dedicated to COVID-19 cases</li> <li>On new working arrangements related to COVID-19 measures</li> <li>Updates</li> </ul>	When necessary	Email or text message to be sent to all staff Virtual meetings Teleconference Sub-debtor's website Written updated information	Sub-Borrower, Contractor and Subcontractor(s)

### Initial Activities Related to Public/Stakeholder Consultation

Following the submission and approval of the draft ESMP of the Project to ILBANK/WB, a stakeholder engagement meeting was held on 19.03.2024. The meeting minutes and other information regarding the meeting are presented in Annex 12.

The stakeholder analysis table documented within the scope of this project is given below.

Within the scope of this project, the opinions of all stakeholders will be taken into consideration and a social impact assessment of the project will be conducted. This assessment will be shaped as a result of scientific and observational-based research within the framework of literature studies, measurable sampling surveys (household and mukhtar surveys), observations and assessments.

The implementation stages of the research are planned as given below:

- Clear identification of objectives and literature review,
  - Data collection process,
    - \* Sample design and selection
    - \* Development of data collection tools
    - \* Data collection
  - Input and analysis of data into statistical software for social sciences (SPSS),
  - Writing the report in line with the data obtained,
  - Utilizing this data within the scope of the project,
- The main objectives of this research are;
- To determine the current social and economic status of the people living in the settlements around the project area,
  - To assess the socio-economic impacts of the works planned under the Project on households in the immediate vicinity and to investigate whether vulnerable/disadvantaged groups will be adversely affected,
  - Eliminate negative impacts, and where elimination is not possible, mitigate and compensate for them.

The questionnaires will consist of a mix of closed questions (mainly for statistical data) and open or semi-open questions (mainly to obtain qualitative information) to cover the areas of interest identified in the literature study. The surveys planned to be implemented will be household and mukhtar surveys and their characteristics are given below.

### **7.5 Mukhtar Surveys**

Interviews with mukhtars aim to collect general information about their settlements. The Muhtar questionnaire generally consists of questions on demographic profile and social structure, services, infrastructure, environment, cultural structure, economic activities, education, health, information on problems in the settlement, and the opinions of the Muhtars on the project.

### **7.6 Household Survey**

The household survey aims to collect information on the general socio-economic status of the households in the study area and their general opinions and expectations regarding the project. The household questionnaire generally 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 assessing social and environmental impacts, all direct and indirect, short-term and long-term, planned and unplanned, known and unknown, intended and unintended, visible and invisible impacts should be considered. In some cases, all segments of society may be affected, while in other cases certain segments of society may be affected. Some impacts may remain invisible for a long time. In this context, the potential impacts of the SPP Project on the socio-economic environment in the region will be assessed and mitigation measures to be taken regarding these impacts will be defined.

Mitigation strategies will be identified in the light of the findings of all these studies and positive steps will be taken for the project in consultation with stakeholders.

## **7.7 Grievance Mechanism**

In order to assess the Environmental and Social Impacts of the Project during the construction and operation of the Project, a Grievance Procedure should be prepared to cover all grievances raised by stakeholders, including the activities of contractors. The establishment of a grievance mechanism will require the establishment of a 24/7 hotline and comments and grievances will be collected by phone, e-mail, mail and verbally.

The Grievance Procedure will provide a channel through which employees can transparently express their opinions and complaints regarding working conditions. The Grievance Procedure includes receiving and recording the grievance, evaluating the grievance, resolving the grievance and closing the grievance. Relevant personnel will be assigned for the grievance management process. The person in charge of collecting grievances will inform the necessary units.

In order to raise awareness among employees, information on how to file a grievance and how to express their opinions and suggestions will be provided during trainings on the Grievance Mechanism. Grievance acceptance channels will be diversified or revised to facilitate employee access.

The Grievance Procedure ensures that the environmental and social risks of the Project are assessed while addressing external grievances related to the Project. The Grievance Procedure ensures that a constructive relationship is established and maintained with external stakeholders. This procedure will cover grievance receipt, assessment, validation, investigation, feedback to stakeholders, implementation of improvement actions and closure.

## **8. ANNEXES**


<b>Annex 1</b>	<b>Parcel Area Coordinates</b>
<b>Annex 2</b>	<b>"EIA Not Required" Editorial</b>
<b>Annex 3</b>	<b>SPP Settlement Plan</b>
<b>Annex-4</b>	<b>Energy Transmission Lines Expropriation Exemption Letter</b>
<b>Annex-5</b>	<b>Environmental and Social Screening</b>
<b>Annex-6</b>	<b>Complaint Form</b>
<b>Annex 7</b>	<b>Complaint Closure Form</b>
<b>Annex-8</b>	<b>Consultation Form</b>
<b>Annex 9</b>	<b>Coincidence Find Form</b>
<b>Annex-10</b>	<b>Field Photos</b>
<b>Annex-11</b>	<b>Information on the Stakeholder Engagement Meeting</b>



## ANNEX 1

### PLOT AREA COORDINATES

TESİSİN KURULACAĞI ARAZİNİN KÖŞE NOKTALARI			
TESİSİN KURULACAĞI ARAZİNİN KÖŞE NUMARASI		Doğu (sağa değer)	Kuzey (yukarı değer)
K1		575782.164	4288652.413
K2		575997.963	4288731.078
K3		576002.427	4288718.906
K4		576006.054	4288703.397
K5		576005.269	4288694.508
K6		575994.07	4288683.298
K7		575980.199	4288678.725
K8		575955.882	4288675.162
K9		575911.501	4288678.07
K10		575888.117	4288667.855
K11		575865.889	4288627.875
K12		575768.811	4288614.726
K13		575762.164	4288652.413

  
Verdile Kaya Tazeli

## ANNEX-2

### EIA NOT REQUIRED CERTIFICATE



T.C.  
ELAZIĞ VALİLİĞİ  
Çevre ve Şehircilik İl Müdürlüğü

Sayı : 14698725-220.03-E.2330

12.02.2020

Konu : ÇED Görüşü (Güneş Enerji Santrali)

#### KOVANCILAR BELEDİYE BAŞKANLIĞINA

İlgi : a) 11/02/2020 tarih ve 155 sayılı yazınız.  
b) 11/02/2020 tarihli ve 117600 Referans No'lu Başvuru.

İlimiz Kovancılar İlçesi Fatih Mahallesi (3765 No'lu Parsel) mevkiinde tarafınızca yapılması planlanan Güneş Enerji Santrali (500 Kwe ve 7700 m<sup>2</sup> alan) projesi, 25/11/2014 tarih ve 29186 sayılı Resmi Gazete'de yayımlanarak yürürlüğe giren ÇED Yönetmeliği Listelerindeki eşik değerden az olduğu için kapsam dışı olarak değerlendirilmiştir.

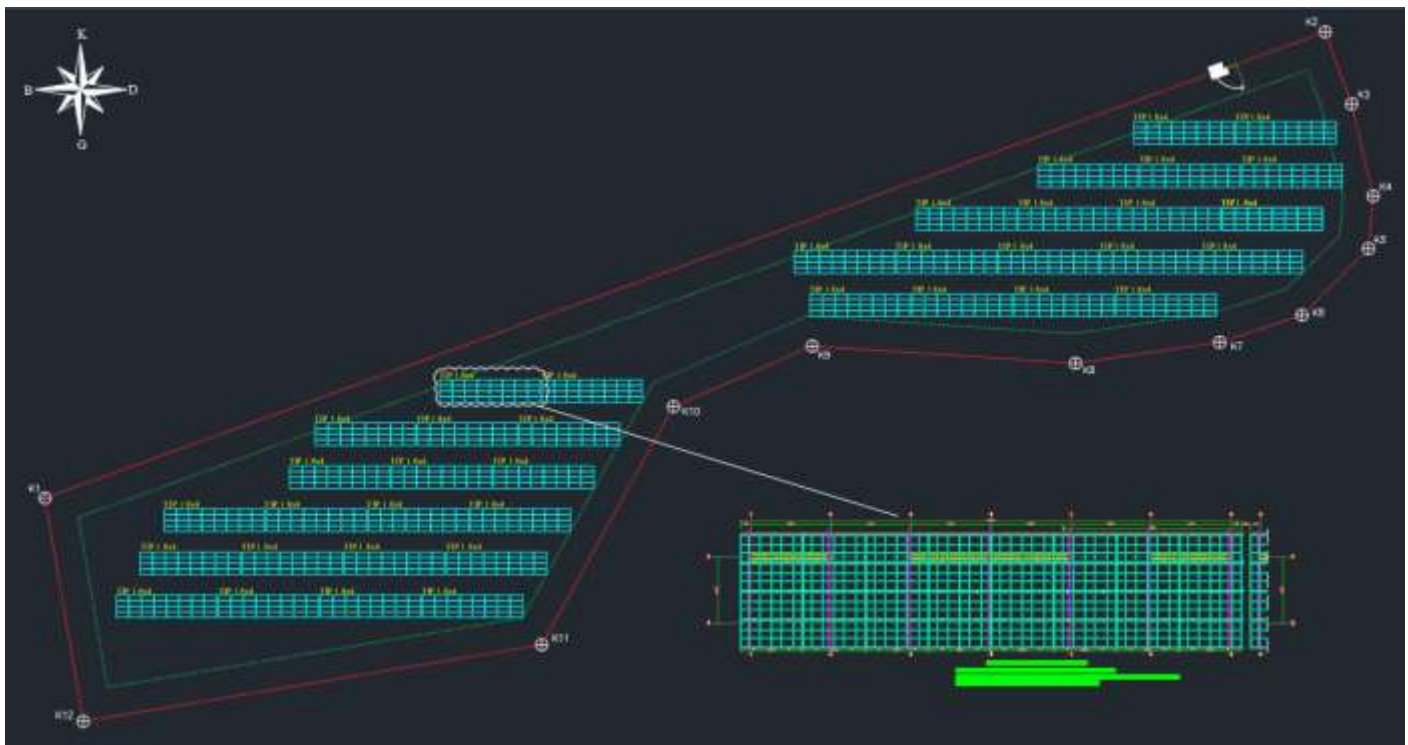
Ancak planlanan yatırım ile ilgili olarak, 5491 sayılı kanunla değişik 2872 sayılı Çevre Kanunu ile bu Kanuna istinaden çıkarılan Yönetmeliklerin ilgili hükümlerine uyulması ve diğer mer'i mevzuat çerçevesinde öngörülen gerekli izinlerin alınması, ekolojik dengenin bozulmamasına, çevrenin korunmasına ve geliştirilmesine yönelik tedbirlere riayet edilmesi, söz konusu projenin gerek yatırım gerekse işletme döneminde mevcut durumunda değişiklik yapılması planlandığında ve/veya kullanım amacı değişikliği yapılacağı zaman yeniden İl Müdürlüğümüz görüşünün alınması gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Mustafa PİRİNÇİ  
Çevre ve Şehircilik İl Müdürü V.

## ANNEX-4

## SPP LAYOUT PLAN



## **ANNEX-5**

### **TRANSMISSION LINES ARTICLE**



T.C  
ELAZIĞ İLİ KOVANCILAR İLÇESİ  
BELEDİYE BAŞKANLIĞI  
Fen İşleri Müdürlüğü

SAYI : 18138068-310-99 /1/1  
KONU : GES Kamulaştırma Hk.

28.08.2023

İLGİLİ MAKAMA

07.10.2020 tarih 123367 ve 123368 sayılı çağrı mektubu kapsamındaki 500 kWe Fatih GES ve 360 kWe İsmetpaşa GES projelerine ait GES santrali enerji nakil hattı güzergâhı ve santral ulaşım yoluna ait mülkiyet Belediyemize ait olup, 3. Şahıslara yönelik bir kamulaştırma işlemine gerek yoktur.

  
Hacı AKPINAR  
Belediye Başkanı

Belediye Başkanlığı  
[www.kovancilar.bel.tr](http://www.kovancilar.bel.tr) TEL: 04246113415- 0424611 3167-0424 6113082 Fax: 0424 6113414  
e-mail: [kovancilarbelediyesi@hotmail.com](mailto:kovancilarbelediyesi@hotmail.com)

CamScanner ile tarandı

ANNEX-6

## ENVIRONMENTAL AND SOCIAL SCANNING

### ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST FOR SUB-PROJECTS

Subproject Information	
Subproject title	KOVANCILAR MUNICIPALITY, SOLAR ENERGY POWER PLANT
Subproject beneficiaries	Local People
Recommended start date	01.02.2024
Brief description of the subproject	Installation and operation of Solar Power Plant and transmission lines
Field area, location	Elazığ Province Kovancılar District İsmetpaşa Mah. 0 -3765 parcels
Subproject cost	€387,296
Status of the national EIA process of the subproject	EIA Out of Scope Certificate dated 12.02.2020 and numbered 2330 is available

Environmental and social impacts related to the proposed subproject – current status			
	Yes	No	Details
the subproject <sup>1</sup> negatively impact legally protected areas or internationally recognized areas of high biodiversity value?		x	There is no defined area within the project site.
Will the subproject be located in or near an environmentally sensitive or protected area (in accordance with national legislation)?		x	There is no defined area within or near the project site.
Will the subproject negatively impact critical habitats or natural habitats such as forest ecosystems, wetlands, marshes, and aquatic ecosystems?		x	There is no defined area within the project site.
Will the subproject negatively impact endangered plant and animal species?		x	There is no defined area within the project site.
Will the subproject affect ruins, historical monuments and settlements?		x	There is no defined area within the project site.

<sup>1</sup>Internationally recognized areas of high biodiversity value include, among others, World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas and Alliance for Zero Extinction Fields are included.

Are there trees or forests around the subproject area?		x	defined area around the project site .
Will the subproject negatively affect woodlands and forests?		x	There is no defined area within the project site.
Are there any flammable and flammable collapse materials around the subproject area?		x	There is no defined area around the project site.
Are there utilities such as gas or electricity lines underground?		x	There is no defined area within the project site.
Are there overhead lines such as high voltage lines in or near the subproject area?	x		There is a transformer and pump station 160 meters away.
Will people permanently or temporarily lose access to facilities, services or natural resources due to subproject activities?		x	There will be no access restrictions.
Does this subproject intervention (for the Power Plant Area, Power Transmission Line or Access Road) require the acquisition of privately owned land?		x	It does not require the acquisition of privately owned land.
If it is necessary to acquire a land parcel (for the Power Plant Area, Energy Transmission Line or Transportation Road), what is the actual land size and ownership status?			Expropriation has been made. Power plant area 7,700 m2
If new land is required (for the Power Plant Area, Energy Transmission Line or Transportation Road) and the site is privately owned, can this land be purchased with an agreement of Buyer Consent and Seller Consent (other than expropriation)?	x		No new land required. It can be purchased by agreement if necessary.
Will the subproject require acquiring public land?		x	Expropriations have been made.
Has land been acquired for the Power Plant Area, Energy Transmission Line or Access Road for the Project in the last 5 years? If yes, by what means (expropriation or voluntary purchase) was the land acquired?	x		Expropriations have been made.
If public land is to be acquired, are there any official/unofficial users using the land in question to generate income?		x	Public land will not be acquired.
Will there be loss/damage to productive trees, fruit plants or crops that are the source of income for households?		x	There is no defined area within the project site.
Is there any soil contamination observed in the subproject area ?		x	Any observed soil contamination There is no.



Environmental and social/impacts related to subproject construction/installation			
	Yes	No	Details
Will the subproject involve the use of forest trees or other natural resources as construction materials?		x	construction materials.
the subproject emit greenhouse gases (CO <sub>2</sub> , NO <sub>x</sub> , O <sub>3</sub> ) or ozone-depleting substances (chlorofluorocarbon, methyl bromide, etc.)?		x	There will be no greenhouse gas emissions.
toxic materials (e.g. hospital waste, industrial waste or other) be used, produced or discharged in the subproject?		x	Hazardous and toxic substance; There will be no production, use or discharge.
Will the subproject create or cause occupational hazards?		x	It is not possible to cause occupational hazard or occupational hazard.
Will the subproject cause dust and noise pollution?		x	Necessary calculations have been made and it remains below the limit values.
Will the subproject cause water pollution?		x	resulting wastewater will be collected in a sealed septic tank and removed by a sewage tank.
Will the subproject cause soil pollution?		x	It is not a project that will cause soil pollution.
Will the subproject cause temporary disruption to the livelihood of any person/household?		x	It is not a project that will disrupt livelihoods.
Will the subproject pose a risk to public safety?		x	It is not a project that will endanger public safety.
Will there be significant OSH issues in the subproject?		x	OHS rules will be followed and relevant experts will be worked with.
Will the subproject cause additional traffic load?		x	It will not create any traffic load.
Will the subproject cause any adverse impacts (if any) on immediate sensitive receptors?		x	There will be no adverse impact on the nearest sensitive receptors.
Is there a population that may be negatively affected by the subproject?		x	There is no population that will be negatively affected.
Other environmental or social impacts (describe the nature and severity of impact)	<u>Preparatory phase: there will be no environmental and social impact.</u> <u>Construction phase: there will be no environmental and social impact.</u> <u>Operation phase: there will be no environmental and social impact.</u>		


### Need for Subproject Classification and Safeguards Documents

<b>Subproject Category</b>	<b>xLow <input type="checkbox"/>Medium <input type="checkbox"/>Significant <input type="checkbox"/>High</b>
<b>Root Causes</b>	NO NEGATIVE ENVIRONMENTAL AND SOCIAL EFFECT HAS BEEN DETECTED UNDER THE PROJECT.
<b>Required Environmental and Social Documents</b>	<b>XESMP</b>  <b><input type="checkbox"/>ISGP</b>  <b><input type="checkbox"/>ESIA</b>  <b><input type="checkbox"/>IIP</b>  <b><input type="checkbox"/>RAP</b>  <b><input type="checkbox"/>Post Social Audit</b>

<b>Situation</b>	<b>Institution / Official</b>	<b>Name, Signature, Date</b>
<b>Preparer</b>		
<b>Marking and classifying as (Low, Medium, Important or High)</b>		
<b>Reviewed and Approved by</b>		

ANNEX 7


COMPLAINT FORM

	KOVANCILAR MUNICIPALITY Project Code: ..... Kovancılar Municipality Solar Power Plant			
	COMPLAINT FORM			
Person Filling in the Form:		History:		
Interview Subject:		Reference No:		
INFORMATION ABOUT THE COMPLAINANT				
Name-Surname		How the complaint was received		
T.R. Identity Number:		Telephone <input type="checkbox"/>		
Phone:		Face to face <input type="checkbox"/>		
Address:		Website / E-mail <input type="checkbox"/>		
Email:		Other (Describe) <input type="checkbox"/>		
Stakeholder Type				
Public Institution <input type="checkbox"/>	People Affected by the Project <input type="checkbox"/>	Private Organization <input type="checkbox"/>	Professional Chamber <input type="checkbox"/>	NGO <input type="checkbox"/>
Interest Groups <input type="checkbox"/>	Industry Associations <input type="checkbox"/>	Labor Union <input type="checkbox"/>	Media <input type="checkbox"/>	University <input type="checkbox"/>
DETAILED INFORMATION ABOUT THE COMPLAINT				
Description of the Complaint:				
Solution method proposed by the complainant				

Name-Surname/Signature of the Registrant	Name-Surname/Signature of the Complainant
--	---

ANNEX 8


COMPLAINT CLOSURE FORM

	KOVANCILAR MUNICIPALITY Project Code: ..... Kovancilar Solar Power Plant
	COMPLAINT CLOSURE FORM
Reference No:	
DETERMINATION OF CORRECTIVE ACTION	
1	
2	
3	
4	
5	
Responsible Departments	
CLOSURE OF COMPLAINT	
<i>This section contains the information specified in the "Complaint Registration Form" in case the complaint is resolved Complainant will be filled in and signed by the person in charge.</i>	

History:  ...../...../.....	Name Surname / Signature of the person Closing the Complaint	Name and Surname / Signature of the Complainant
-----------------------------------	---	--

ANNEX 9

CONSULTATION FORM

	KOVANCILAR MUNICIPALITY Project Code: ..... Kovancilar Solar Power Plant			
	CONSULTATION FORM			
Person Filling in the Form:			Date and time:	
Meeting Agenda:			Consultation Record No:	
CONSULTATION INFORMATION				
Interviewed Institution:			Communication Type	
Name and Surname of the Interviewee:			Telephone / Hotline <input type="checkbox"/>	
Phone:			Face-to-Face Interviews <input type="checkbox"/>	
Address:			Website / Email <input type="checkbox"/>	
Email:			Other (Describe) <input type="checkbox"/>	
Stakeholder Type				
Open to the General Public Institution	PEK <input type="checkbox"/>	Special Organization <input type="checkbox"/>	Professional Room <input type="checkbox"/>	NGO <input type="checkbox"/>
Benefit Groups <input type="checkbox"/>	Industry Associations <input type="checkbox"/>	Labor Unions <input type="checkbox"/>	Media <input type="checkbox"/>	University <input type="checkbox"/>
CONSULTATION DETAILS				
Questions about the project:				

Project concerns/feedback:	
Responses to the views expressed above:	
<i>Recording Name-Surname/Signature</i>	<i>Name- Surname/Signature of Complainant</i>

## ANNEX 10

### CHANCE FIND NOTIFICATION FORM

Kovancilar Solar Power Plant Project Incidental Find Notification Form		
REGISTRATION		
Name of the person recording:		
Date and time of discovery:		
Field Name	Coordinates	
	X	Y
Description of the finding:		
Number of photos:		
Estimated weight and dimensions:		
CONTACT PERSON		
Name-Surname/Title/Task:		
Date and Time:		
Contact information:		
Speech details:		
DECISIONS		
Any protection measures to be implemented:		
Movable or immovable: If portable, please indicate the new location.		

More action is needed:	
Start date and time:	
Explanations:	
DELIVERY	
Name-Surname	History:

## ANNEX 11

### FIELD PHOTOS







## ANNEX-12

### INFORMATION ON STAKEHOLDER ENGAGEMENT MEETING

#### Kovancilar Solar Power Plant Project

#### Minutes of Public/Stakeholder Engagement Meeting March 21, 2024

The meeting was opened by Emrah ÇULHA, Environmental and Social Advisor. Kovancilar Municipality SPP project has a power of 500 kWe and will be located on 7,700.00 m2 land belonging to Kovancilar Municipality in İsmetpaşa Mah. 0 island 3765 parcel in Kovancilar District of Elazığ Province. It is one of the sub-projects under the Sustainable Cities Project-II - Additional Financing (SCP-II-EF), which is supported by World Bank financing to support sustainable development in cities in Türkiye.

A presentation was made by Emrah ÇULHA, Environmental and Social Consultant, providing information about the project to be implemented and the works to be carried out within this scope. The Environmental and Social Management Plan (ESMP) has been prepared by MGS & REA JV in accordance with Turkish environmental and social legislation, World Bank Safeguard Policies including Operational Policies (OPs), World Bank General EHS Guidelines and Industrial Sector Guidelines and ILBANK's ESMF. In addition to these studies, a Stakeholder Engagement Meeting was organized on 21.03.2024 at 11:00 following the completion of the ESMP. 14 People attended the meeting. At the meeting, the Environmental and Social effects and consequences of the GES Project, as well as its contribution to the municipal and national economy were explained.

Then there was a question and answer session.

- Municipality staff Serhat DAĞ asked whether the GES Power Plant has a negative impact on the surrounding animals and vegetation? He asked the question.

In response, Emrah ÇULHA, Environmental and Social Advisor, stated that environmental impacts were investigated in the region where the SPP project was established, that there are no forests, natural life, rivers and underground water resources in the vicinity. It was stated that there was no negative impact on the environment in the studies conducted.

- Municipality staff Gamze AKPINAR asked whether there will be an energy storage system in the SPP plant and the economic benefits for the people of the region.

In response, Emrah ÇULHA, Environmental and Social Advisor, stated that there is no storage system in the project, and that after the energy produced is offset, the excess production will be transferred to the electricity grid and income will be generated from the sale of energy. He said that it will create employment for the people of the region and contribute to the municipal budget.

- Municipality staff member Alpaslan AKPINAR asked whether the panels will cause environmental pollution when they complete their economic life? He asked the question.

In response, Emrah ÇULHA, Environmental and Social Advisor, stated that the catalog life of the panels is 25 years, and that the panels that have completed their economic life are collected in accordance with the standards and legislation and sent for recycling.

The meeting lasted about 1 hour.

At the end of the meeting, all participants confirmed that they had received detailed information on the environmental and social impacts of the SPP Plant.


## Public/Stakeholder Participation Meeting Newspaper Announcements

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## Project Information Brochure

<p>Ayrıca ÇSYP kapsamında uygulanacak izleme ve denetim faaliyetleri de tanımlanacaktır. ÇSYP çalışmaları kapsamında toprak ve hava ortamı, gürültü, koku, su kaynakları, atıklar, trafik, ekosistem, projenin kurulacağı alana dair var olan doğal afet riskleri, GES kaynaklı yaşanabilecek yansımalar ve parlama etkisi gibi oluşabilecek etkiler belirlenecek ve ilgili sakinin azaltılma önlemleri belirlenecektir.</p> <p>İzleme gereklilikleri de ÇSYP kapsamındaki izleme tablolarında tanımlanarak sunulacaktır. Buna göre projenin inşaat aşamasında, üst toprak kaybı ve sıkışması, kirlenmelerin ve kimyasalların toprağa ve su kirliliği, toz emisyonları, projenin inşaatı sırasında ve geçici trafik yükünden oluşacak gürültü, ankı üretimi ve iş sağlığı ve güvenliği, işletme aşamasında ise kimyasalların depolanması ve kullanımı, atıklar, gürültü, santralin yansımaları ve parlama etkisi, geçim kaynakları, şikâyetler, topluluk çatışmaları, paydaş katılımı, iş sağlığı ve güvenliği ve işgücü parametreleri ÇSYP'de belirlenen şartlara uygun olarak izlenecektir.</p> <p>Bu Çevresel ve Sosyal Yönetim Planı (ÇSYP)'nin uygulanmasından sorumlu ana kurum, projenin inşaatından ve işletme aşamalarından da sorumlu olan Kovancılar Belediyesi'dir. Ayrıca, projenin farklı aşamalarında çeşitli taraflar (Yükleniciler, Müşavir firma, Proje Uygulama Birimi, İLBANK, vb.) ÇSYP kapsamında çeşitli konularda sorumluluk alacaklardır. Söz edilen tüm çalışmalar Kovancılar Belediyesi tarafından koordine edilecektir.</p> <p>Proje dokümanları ayrıca Kovancılar Belediyesi'nin internet sitesi üzerinden yayınlanacaktır ve talep edilmesi halinde bu dokümanlar Kovancılar Belediyesi tarafından paylaşılabilecektir.</p>	<p>Kovancılar Belediyesi, Proje ile etkilenen toplulukların endişelerini ve şikâyetlerini almak, çözmek ve takip etmek için bir <b>Şikâyet Giderme Mekanizması</b> kurmuştur.</p> <p>Tüm şikâyetler, önceden belirlenmiş bir zaman çizelgesi içinde ve içeriklerine göre etkin bir şekilde alınacak, kaydedilecek ve yanıtlanacaktır.</p> <p>Şikâyet Giderme Mekanizması'nın kurulmasından ve uygulanmasından sorumlu kurum Kovancılar Belediyesi olacaktır. Bu kapsamda proje ile ilgili beklenti, görüş, öneri ve şikâyetlerin paylaşılması için aşağıda verilen iletişim kanalları da ayrıca kullanılabilir.</p> <p><b>Paydaş Katılım Toplantıları</b></p> <p><b>Kovancılar Belediyesi;</b></p> <p><b>Telefon: 0424 8113415</b></p> <p><b>E-mail: kovancilarbelediyesi@hotmail.com</b></p> <p>Tüm iç ve dış paydaşlar, projeye ilgili şikâyetlerini ve geri bildirimlerini doğrudan devlet yetkililerine iletmek için alternatif ve iyi bilinen bir kanal olarak tüm proje paydaşlarının erişimine açık olan ve ülke çapında kullanılan Cumhurbaşkanlığı İletişim Merkezi (CIMER) gibi diğer şikâyet giderme mekanizmalarından da yararlanma hakkına sahip olacaktır.</p> <p>- <a href="http://www.cimer.gov.tr">www.cimer.gov.tr</a> - Çağrı merkezi: 150 - Telefon numaraları: +90 312 590 20 00</p>	<div><p>The project is implemented by the Kovancılar District, with financial support from the Ministry of Environment, Urbanization and Climate Change of the Republic of Turkey.</p></div> <h3>SÜRDÜRÜLEBİLİR ŞEHİRLER PROJESİ-İİ</h3> <p><b>Kovancılar Belediyesi</b> <b>Güneş Enerjisi Santrali Projesi</b></p> <p>Halkın Katılımı Toplantıları Bilgilendirme Broşürü</p> <p><b>21 MART 2024</b> <b>11:00</b></p> <p>Kovancılar Belediye Başkanlığı Konferans Salonu</p> <div></div>
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<p><b>Kovancılar Belediyesi GES Projesi ("Proje"),</b> Türkiye'deki şehirlerde sürdürülebilir kalkınmayı desteklemek için Sürdürülebilir Şehirler Projesi-II Ek Finansman (SSP-II-EF) kapsamındaki alt projelerden biridir. SSP-II-EF, özellikle sürdürülebilir kentsel gelişme yatırım yapıp, yenilenebilir enerji kaynaklarının gelişmesine, afetlere ve iklim değişikliğinin hafifletilmesine ve risklere karşı şehir direncine ilişkin proje yaklaşımlarını geliştirmeyi amaçlamaktadır.</p> <p>Dünya Bankası (DB) tarafından finanse edilen proje, İller Bankası A.Ş. aracılığı ile Kovancılar Belediyesi tarafından yürütülecektir.</p> <p>Proje, Kovancılar İlçesi'nde elektrik enerji ihtiyacını karşılamayı ve yenilenebilir enerji kullanarak yerel kalkınmaya katkı sunmayı amaçlamaktadır.</p> <p>İlçenin elektrik enerjisi ihtiyacını karşılamayı ve kullanılan enerjinin yenilenebilir enerji kaynaklarından elde edilerek ilçenin tüketim maliyetlerini azaltmayı hedeflemiştir. Bu kapsamda Proje, kurulacak santralin 30 yıllık kullanım süresi ile inşaa edilecektir. GES projesinin 5.00 kW'e elektrik üretmesi beklenmektedir. Proje, Elazığ İl Kovancılar İlçesi İsmetpaşa Mah. 0 ada 3765 parsel 7.700,00 m² alana inşa edilecektir. (Bkz. Şekil 1).</p>	<p><b>Projenin beklenen sonuçları aşağıdaki gibidir:</b></p> <ul style="list-style-type: none"> <li>- Proje, Elazığ İl Kovancılar İlçesinde elektrik enerji ihtiyacının güneş enerjisinden sağlanarak ilçenin temiz, erişilebilir enişimini sağlayacaktır.</li> <li>- Proje, enerjide fosil yakıtlara olan bağımlılığı azaltacak ve ilçenin ekonomik olarak kalkınmasını sağlayacaktır.</li> <li>- Proje, Türkiye'nin yenilenebilir enerji kaynakları sektöründe ulusal ve uluslararası kalite standartlarına uyum çabalarına katkı sağlayacaktır.</li> <li>- Temiz enerji kaynakları kullanılarak iklim değişikliğiyle mücadelede adım atılmış olacak ve yerel halkın çevresel ve ekonomik refahına katkı sağlayacaktır.</li> </ul> <p><b>Projenin işe alım sürecinde yerel halka öncelik verilecektir.</b></p> <p>Proje, ulusal mevzuatın yanı sıra DB Koruma Politikaları, yönergeler, standartlar ve en iyi uygulama belgeleri de dahil olmak üzere iyi uluslararası uygulamalarla uyumlu olacaktır.</p>	<p>Proje, inşaat ve işletme aşamasında yerel halk için iş fırsatları yaratacaktır. GES projesinin inşaat çalışmalarının oldukça kısa bir zaman diliminde tamamlanması beklenmektedir. yolların kapanmasından mümkün olduğunca kaçınılacak, inşaat faaliyetleri nedeniyle proje çevresindeki işletmelerin kapanması beklenmemektedir.</p>  <p>Şekil 1: Kovancılar GES Altı proje Alanı</p> <p><b>Beklenen etkilerin yönetimi için bir Çevresel ve Sosyal Yönetim Planı (ÇSYP) geliştirilmiştir.</b></p> <p>ÇSYP, Projenin süresi boyunca olası çevresel ve sosyal etki ve risklerin izlenmesi, değerlendirilmesi ve önemli olumsuz çevresel etkiler için etki azaltma önlemleri önermek amacıyla hazırlanmaktadır.</p>
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Photos from Public/Stakeholder Engagement Meetings







Participant List



# KOVANCILAR MUNICIPALITY GÜNEŞ E ENERGY POWER PLANT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN 2024



## Katılımcı Listesi

	İsim-Soyisim	Meslek	Temsil Ettiği Kurum /Yerleşim Yeri	Telefon
1	Ö. Can. Yılmaz	Mimar	Kovancılar Belediyesi / Kovancılar	0531 70 70 70
2	Alihan Karaman	İnşaat mth.	"	0531 70 70 70
3	M. Fatih Kaya	İnşaat mth.	"	0531 70 70 70
4	Ayşe T. Kaya	matba mth.	"	0531 70 70 70
5	Abdullah Karaman	Gececih.	"	0531 70 70 70
6	Hacı Abdullah	Belediye bşk	"	0531 70 70 70
7	A. Fatih Karaman	Mali / Tic. Müd.	"	0531 70 70 70
8	M. Can Karaman	Yaz. İşl. Müd.	"	0531 70 70 70
9	Velip. Karaman	3C Farklı mekân	"	0531 70 70 70
10	Abdullah	SÜNEŞ'ay Lu	"	0531 70 70 70
11	Mustafa	ATAS	"	0531 70 70 70
12	Emine Karaman	Mimar	"	0531 70 70 70
13	Alihan Karaman	"	"	0531 70 70 70
14	Alihan Karaman	"	"	0531 70 70 70
15	Alihan Karaman	"	"	0531 70 70 70