

Environmental and Social Management Plan

TİLLO MUNICIPALITY
TİLLO SPP SUB-PROJECT

تیلو
BELEDİYESİ

1958

Table of Contents

Table of Contents	2
Executive Summary	3
1. Sub-project Description	5
<i>Project Land Use Rights</i>	8
2. Environmental and Social Screening	8
3. Legal Framework	10
<i>National Legal Framework</i>	10
<i>International Legal Framework</i>	12
4. Baseline Data	12
<i>Environmental Baseline</i>	12
Geography.....	12
Climate	13
Flora and Fauna	14
Botan Stream National Park.....	15
Cultural Heritage.....	17
Economic Sectors on Tillo District.....	17
Earthquake Risks	17
Flood Risks	18
<i>Social Baseline</i>	19
5. Environmental and Social Management Plan	20
<i>Mitigation Plan for the Land Preparation, Construction and Operation Phases of the Project</i>	20
<i>Monitoring Plan for the Land Preparation, Construction and Operation Phases of the Project</i>	24
<i>Measures for Institutional Arrangements, Capacity Development, and Training</i>	28
<i>Implementation of ESMP Disclosure</i>	34
<i>Environmental and Social Monitoring Report</i>	35
<i>Implementation Program and Cost Estimates</i>	36
6. Stakeholder Analysis	39
<i>Stakeholder Identification and Analysis</i>	39
<i>Stakeholder Engagement Plan</i>	42
<i>Grievance Mechanism</i>	43
<i>Monitoring and Reporting</i>	45
7. Annexes	47
<i>Annex 1: Land Register Document of SPP Project Area</i>	47
<i>Annex 2: “EIA Not Required” decision of Siirt Provincial Directorate of Environment and Urbanization</i>	48
<i>Annex 3: SPP Project Area !/1000 scaled Zoning Plan</i>	49
<i>Annex 4: Environmental and Social Screening</i>	50

<i>Integrating Basic Principles to Strengthen Social and Environmental Sustainability</i>	50
<i>Identifying and Managing Social and Environmental Risks</i>	51
<i>Environmental and Social Screening Checklist</i>	58

Figure List

Figure 1: Tillo SPP Sub-Project Area and ETL	5
Figure 2: Altitudes and Profile View of SPP subproject area and Tillo district center	6
Figure 3: Geographical location of Tillo District in Siirt Province and SPP Sub-Project Area.....	7
Figure 4: Region of Siirt and Tillo Geomorphology	13
Figure 5: Siirt Province Solar Atlas	14
Figure 6: View of Botan Stream and Dam from the Observation Terrace near the subproject area ...	16
Figure 7: Botan Valley National Park Borders and Sub-Project Area.....	16
Figure 8: Faults in Tillo, General Directorate of Mineral Research and Exploration (MTA)	18
Figure 9: Earthquake Hazard Map of Tillo and Siirt, Türkiye Earthquake Hazard Maps Interactive Web Application, 2023, (https://tdth.afad.gov.tr).....	18

Graphic List

Graphic 1: a) Tillo District Radiation Values b) Tillo District Sunshine Duration c) PV Type -Area-Energy That Can Be Produced.....	14
Graphic 2: Tillo District Population Between 1990-2022 (TÜİK, 2023).....	19

Table List

Table 1: Planned SPP Technical Details.....	7
Table 2: Planned SPP Land Information.....	8
Table 3: Tillo District Population Between 1990-2022 (TÜİK, 2023)	19
Table 4: Mitigation Plan for the Land Preparation, Construction and Operation Phases of the Project	21
Table 5: Monitoring Plan for the Land Preparation, Construction and Operation Phases of the Project	24
Table 6: Roles and Responsibilities of Main Actors of SPP Subproject.....	29
Table 7: Comprehensive List of the Stakeholder Identified for the Project	40
Table 8: The Potential Impacts of Project Activities on Social Components	41
Table 9: Potential Vulnerable/Disadvantaged Groups and their needs	42
Table 10: Grievance Mechanism Flowchart.....	44

Annex List

Annex 1: Land Register Document of SPP Project Area.....	47
Annex 2: “EIA Not Required” decision of Siirt Provincial Directorate of Environment and Urbanization	48
Annex 3: SPP Project Area 1/1000 scaled Zoning Plan.....	49
Annex 4: Environmental and Social Screening	50

Executive Summary

ILBANK (The Bank of Provinces in Turkey) and the World Bank (WB) have collaboratively devised the Sustainable Cities Projects, which constitute a series of initiatives (SCP I and II are presently underway). This Environmental and Social Management Framework (ESMF) is

specifically crafted for the Additional Financing (AF) of SCP II, intending to establish an augmented support mechanism. This augmentation is in response to the escalating demand from Municipalities seeking investments in sustainable urban development within the ongoing framework of the Sustainable Cities Program. The overarching goal of this program is to assist municipalities in enhancing urban planning, infrastructure development, capital investment planning, and fortifying municipal financial capacities, including creditworthiness. All investments implemented through this Project will strictly adhere to both the Environmental Regulations of the Republic of Turkey and the Safeguard Policies of the World Bank. To ensure compliance, ILBANK will serve as the financial intermediary, overseeing the adherence to WB policies and procedures. Additionally, ILBANK will ensure that all requisite Turkish environmental approvals, licenses, and permits are obtained.

With financial support from the World Bank for renewable energy projects belong to municipalities, a solar power plant project located in Tillo, a district within Turkey's Siirt province, has been initiated by Tillo Municipality. This project aims to increase the share of renewable energy sources in the country's energy mix and reduce greenhouse gas emissions. A total of 5365 PV panels are used in the power plant and a total of 2.414 kWp DC installed 1974 kWe AC power are obtained. Annual production is projected to be a total of 4,175 MWh for Tillo SPP subproject, which is subject to Annex-II of EIA regulation. Feasibility studies for annually and 30 years are conducted based on the 1-year invoice consumption of the subscriber and the invoice amounts. The project was designed and constructed by a team of experienced engineers and technicians. The project developer has prepared and ensured the project in compliance with international quality and safety standards. The plant is equipped with state-of-the-art technology, including inverters, transformers, and monitoring systems. The plant is connected to the national grid which has been constructed as a part of the project.

The project has been financed by the World Bank through a loan agreement with Tillo Municipality. The loan has been provided on favorable terms, with a low-interest rate and a long repayment period. The loan has been used to finance the construction of the solar power plant, including the procurement of equipment and the construction of the power plant. The solar power plant project is expected to have a significant impact on the local economy and the environment. The project will create job opportunities during the construction phase and the operation phase. The project will also contribute to the development of the local infrastructure, including the construction of the substation and the transmission line. The project will also have a positive impact on the environment by reducing greenhouse gas emissions. The solar power plant will generate clean energy, which will replace the energy generated from fossil fuels. The project will also contribute to the country's efforts to address climate change. The solar power plant project in Siirt, Tillo is a significant step towards the development of renewable energy sources in Turkey. The project in Tillo has the potential to serve as a model for similar projects in Turkey.

The Environmental and Social Management Plan (ESMP) for this solar energy plant project plays a crucial role in the project's execution. The ESMP acts as a comprehensive guide to monitoring, assessing, and mitigating adverse environmental and social impacts throughout the project's lifecycle. This ensures that the project delivers a positive influence on the environment and the community. The ESMP guarantees compliance with local legal regulations and international standards. It ensures that the project operates in accordance with legal requirements.

This project's provision of clean energy aligns with SDG 7, which targets Clean Energy. Additionally, it positively contributes to Good Jobs and Economic Growth (SDG 8). By reducing reliance on fossil fuels and limiting greenhouse gas emissions, this solar energy plant project supports Turkey's efforts in combatting climate change. It aligns with Turkey's climate action plans and commitments.

In conclusion, the ESMP for this solar energy plant project is a critical document, emphasizing the project's potential for both environmental and societal benefits. It ensures that the necessary steps are taken to monitor and mitigate environmental and social impacts with a focus on the project's unique aspects. Furthermore, it makes a valuable contribution to sustainable development goals and aligns with Turkey's climate action plans.

1. Sub-project Description

It is planned to be used to meet the consumption of electricity subscriptions of Tillo Municipality with the Solar Power Plant sub-project within the scope of the Sustainable Cities Project within the borders of Tillo district of Siirt Province. The Solar Power Plant, in which single crystal photovoltaic panels will be used, will have an installed power of 1,974 MWe. A Solar Power Plant with an installed capacity of 1,974 MWe will be established with approximately 5,365 photovoltaic panels. The area where the project will be established is planned to be 40,000 m². Necessary inspections have been carried out in the project area, which is owned by the municipality (Annex 1), in accordance with the "Soil Protection and Land Use Law No. 5403", which came into force after being published in the Official Gazette dated 19.07.2005 and numbered 25880, and it is located in Siirt province, Tillo district, Mücahit District, lot 18 of block 167. Later, lot 18 of block 167 was subdivided and parcel number 1, island 205, was created and also this subdivided lot was planned as renewable energy area in the zoning plan of Tillo District (Annex 3).

The distance between the subproject area and the district center is approximately 2 km as the crow flies. Compared to the District Center, whose altitude is approximately 1995 meters, the location of the SPP subproject area is approximately 200 meters higher (Figure 2). The road reaching the area is not stable and winding. In addition, new low-density, low-rise construction has started in Mücahit Neighborhood, such as the road leading to the Area, and the distance of the nearest one to the area is approximately 1km.

Figure 1: Tillo SPP Sub-Project Area and ETL



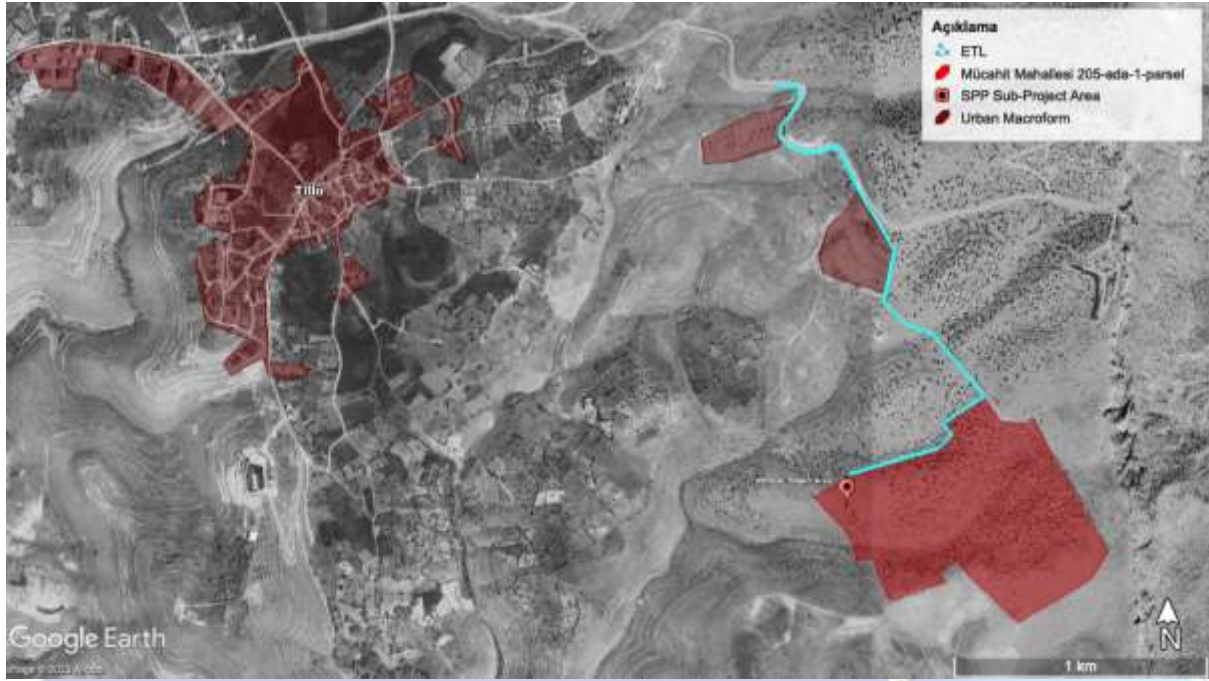
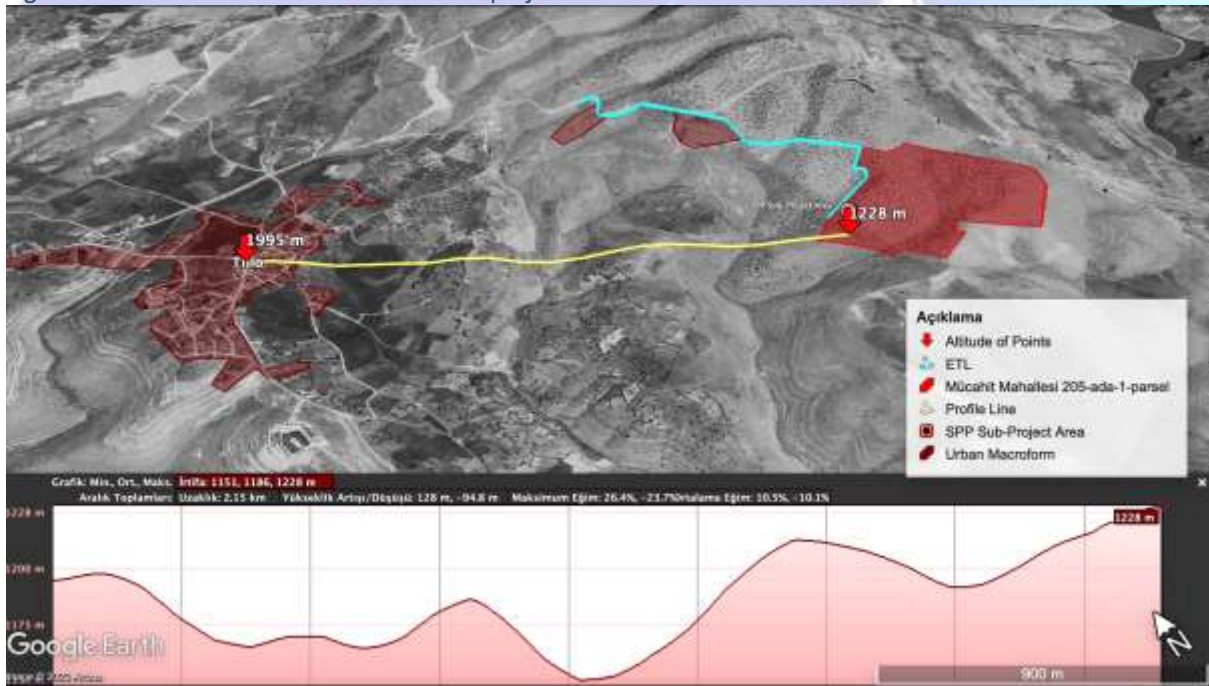


Figure 2: Altitudes and Profile View of SPP subproject area and Tillo district center



This study is prepared within the scope of 30th clause and Article 1 of the "Regulation on Unlicensed Electricity Generation in the Electricity Market" the electricity consumption of the relevant institutions netting with the electricity generation of the power plants to be made over the electricity unit price determined according to the subscription type of the institutions in the Electricity Tariff published by EMRA.

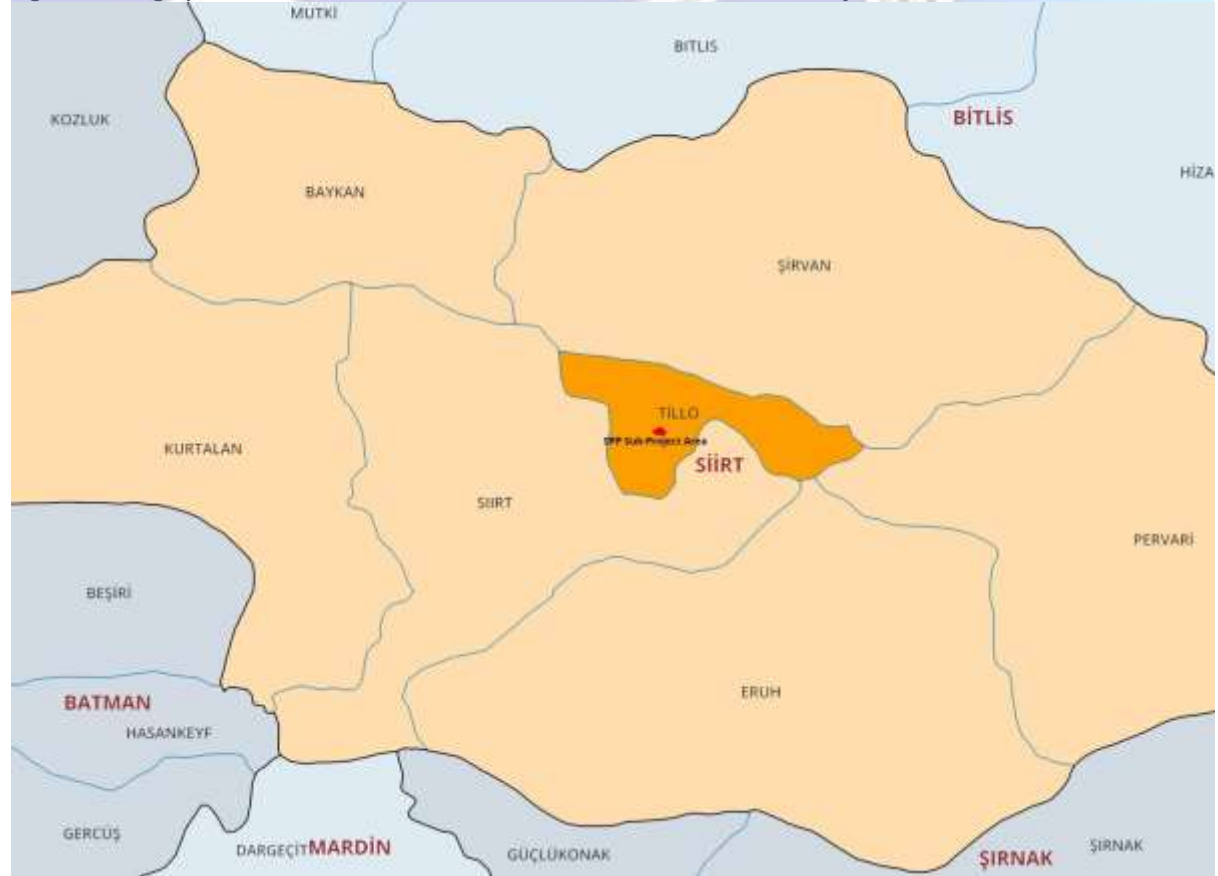
Planned Solar Power Plant has 2414,00 kWp DC Capacity, 1974,00 kWe AC Capacity. Equipped with 450 Wp MonoPerc Half-Cut modules with 30° tilt, 0° azimuth angle.

When the economic life of the plant expires at 25 years, it will be decommissioned, and the cost is written into the cash flow as decommissioning cost which is EU 77.248,00/MWp.

Table 1: Planned SPP Technical Details

Technical Information	
FV Panel Type	Monocrystalline MONOPERC
FV Panel Power Output	450 Wp
FV Panel Count	5365
Annual Degradation	%0,5
Inverter Power Output	100 kW
Inverter Count	20
Total DC Power	2.414,00 kWp
Total AC Power	1.974,00 kWe
Estimated Annual Energy Production	4.175.407,00kWh
Annual Energy Consumption	4.175.407,00 kWh
Production/Consumption	%100
Decommissioning Cost	EU 77.248,00

Figure 3: Geographical location of Tillo District in Siirt Province and SPP Sub-Project Area



Project Land Use Rights

According to information received from the municipality the project site is owned by Tillo Municipality. Tillo Municipality is the sole owner of the project site and the site has single land register deed.

There is an ETL adjacent to the subproject area (Figure 1), but ETL needs to be constructed in the area where the solar panels will be installed and along the cadastral road. There is no need for expropriation since the ownership of the land belongs to the municipality and the energy transmission lines will be built on the cadastral roadside.

Table 2: Planned SPP Land Information

Land Information	
Type	Main Property / Expropriation Performed
Province, District, Nbhd.	Siirt, Tillo, Mûcahit
Block, Parcel	205/1
Total Area	389.392,90 m ²
Right to Property Use	Municipality
EIA Status	EIA Process is completed. "EIA Not Required" decision is granted. (Annex 2)

Photograph 1: The Sub-Project Area of Tillo



2. Environmental and Social Screening

The Tillo Municipality's solar power plant project aims to meet the consumption of electricity subscriptions of the district, enhancing access to affordable clean water. The project

undergoes stakeholder engagement and complaint procedures with a monitoring mechanism to address any concerns raised by residents. Assessments indicate no adverse human rights impacts, promoting inclusivity and equal distribution of resources, with no identified risks of conflict or violence. Also, women's groups or leaders have not expressed gender equality concerns, and the project is not anticipated to adversely impact gender equality or the situation of women and girls. There are no foreseen limitations on women's access to natural resources, and the project is not expected to contribute to environmental degradation or exacerbate risks of gender-based violence.

The solar power project reduces reliance on fossil fuels, lowering environmental impact and mitigating climate change effects. By incorporating solar energy into the urban energy mix, the project enhances energy resilience, diversifies energy sources, and contributes to the sustainability of the urban area. Additionally, the project's location in the urban periphery could be an advantage for Tillo's future spatial planning studies to integrate renewable energy infrastructure, contributing to the environmental and spatial dimension of sustainability. The project not only lowers the municipality's electricity expenses, enhancing economic sustainability, but also fosters green jobs and skill development in the renewable energy sector. Additionally, the project serves as a visible example of sustainable practices, inspiring broader shifts toward sustainability in urban planning and development, and in environmental and social management.

The project prioritizes accountability by embracing transparency in decision-making through active stakeholder engagement, accessible information, and responsive grievance mechanisms. Regular stakeholder engagement activities, such as meetings and workshops, would create a platform for dialogue, ensuring stakeholders' concerns are heard and fostering a sense of ownership. The establishment of a robust grievance mechanism would underscore the project's commitment to addressing stakeholder concerns in a timely manner. Measurable performance indicators and regular reporting would contribute to accountability by allowing stakeholders to assess the project's success against predetermined benchmarks and providing detailed insights into its activities and outcomes.

Solar power plant projects, both during construction and operation, present several environmental impacts across different dimensions. In terms of soil and geology, the removal of the vegetative topsoil layer may lead to a decline in soil organic matter, impacting fertility. Furthermore, activities like leveling, excavation, and filling, coupled with the operation of construction equipment and vehicular traffic, pose the risk of soil compaction. The consequence of such processes extends to soil erosion and loss due to precipitation. Additionally, the handling of vehicles and equipment, including maintenance and fueling operations, may result in the uncontrolled or accidental release of pollutants, such as hydrocarbons, potentially contaminating the soil.

The construction phase introduces noise and vibration concerns, including temporary traffic-related noise and disturbances caused by construction activities. These disturbances encompass the installation of solar panels, use of construction vehicles, and activities like blasting, rock extraction, and foundation construction, potentially causing discomfort and structural damage.

Air pollution is another facet, with potential emissions stemming from dust generated during soil excavation and construction activities. Vehicle traffic on stripped surfaces within the site and exhaust emissions from both traffic vehicles and on-site machinery contribute to the airborne pollutant load, albeit typically at limited levels contingent on project size.

The effects on people encompass temporary transportation route blockages, damage to infrastructure along traffic routes, and potential health impacts such as discomfort, noise, vibration, and airway-related ailments during both construction and operation stages. Conversely, improvements in traffic safety and air quality may result from altered routes.

In the course of project activities, various types of waste are generated. These include municipal waste, encompassing household refuse, as well as packaging waste derived from panels and other system components. Additionally, hazardous waste is produced, incorporating chemicals like paints and solvents, their containers, oily packaging, and cloths. Special wastes, such as electronic waste from system components like panels, cables, and other electronic apparatus, also contribute to the waste accumulation.

Solar Power Plants may cause reflection and glare effects on panels due to direct sunlight or a bright sky. The intensity of these effects depends on the season, geographical location, and proximity to potential reception points such as residential areas and transportation routes. To mitigate possible issues, areas with a reflection risk should be identified, and visual screens can be applied at specific points based on visual monitoring and complaints from nearby settlements in the first year of operation.

The fact that the SPP sub-project to be built in Tillo will be completed in a short period of 6 months and that its installed power is less than 1MW has resulted in the significance level of most of these impacts being low or moderate. In addition, the absence of cultural heritage and living population in the area and no need for expropriation of the land are at a low level in terms of social impacts.

All details related to environmental and social screening are given in Annex of this document.

3. Legal Framework

National Legal Framework

The WB's environmental and social safeguards policies require that the borrower country is expected to prepare an Environmental and Social Management Framework (ESMF), integrated with the Regulation on Environmental Impact Assessment (henceforth "EIA Regulation") (Official Gazette No. 31907, July 29, 2022) and WB's Operational Policies. Although the Turkish EIA Regulation does not entirely meet the requirements of international standards in terms of social impacts, there are some legal arrangements for managing several social impacts. In this respect, the following are identified to be a non-exhaustive list of social legal framework applicable for this project:

- Labor Law (No. 4857), published in the Official Gazette no. 25134 dated 10 June 2003
- Law on Occupational Health and Safety (No. 6331), published in the Official Gazette no. 28339 dated 30 June 2012
- Regulation on Contractors and Sub-contractors, published in the Official Gazette no. 27010 dated 27 September 2008

In terms of involuntary resettlement, the relevant legal arrangements of Turkey are summarized below:

- Law No. 6203 Expropriation Law, published in the Official Gazette no. 18215 dated 8 November 1983

Potential impact of the project on known cultural values in Turkish laws, as listed below:

- Law No. 2863 dated 21.07.1983 on the Protection of Cultural and Natural Assets (revised through the amendment issued on 27.07.2004 dated Official Gazette)
- The Regulation on Researches, Drillings and Excavations in Relation to the Cultural and Natural Assets, which was published in the Official Gazette No. 18485 dated 10.08.1994

Labor and Working Conditions:

- Human Resource Policy (dated January 4, 2013 in the Official Gazette numbered 28518) published by ILBANK
- Eligibility Criteria: The Law on Regulating Public Finance and Debt Management (Law No. 4749) restricts borrowing by any institution/municipality if it has overdue payments to Treasury.

In terms of stakeholder analysis:

- The Law on the Right to Information, Law no. 4982 dated November 25, 2014)
- The Law on the use of the Right to Petition, Law no. 3071 dated November 1, 1984
- The Law on the Protection of Personal, Law no. 6698 dated 24 March, 2016

Moreover, the subproject is the subject of the 30th clause of the "Regulation on Unlicensed Electricity Generation in the Electricity Market", published by the Energy Market Regulatory Authority no. 30772 on May 12, 2019 and amendment published on Official Gazette No: 31479 dated May 09, 2021, updated on Official Gazette No: 31920 dated August 11, 2022, final update on Official Gazette No: 32120 dated March 02, 2023. Article 1st Paragraph: " In order to meet the electricity needs of the consumption facilities, not exceeding the contractual power of the relevant consumption facilities in the connection agreement; Within the scope of subparagraph (h) of the first paragraph of Article 5, a production facility based on renewable energy sources may be established. Within the scope of this article, a production facility based on renewable energy sources may be established by public institutions and organizations within the scope of subparagraph (c) of the first paragraph of Article 5."

Section 26 of the same regulation. In paragraph 30-(3) under the heading "Applications for consumption needs", referring to the article, it reads: "In the production facilities established within the scope of this article, transactions are established within the scope of the fourth paragraph of Article 26 for surplus energy supplied to the grid during each billing period.

It is possible to explain offsetting as comparing the energy consumed monthly and the energy produced by the power plant and if there is excess production, selling this excess energy to the grid. The energy supplied to the network is sold at the unit price at which the subscriber receives the electricity, without considering the distribution price, also this sale is subject to tax.

Since the power plant to be established meets a small part of the municipality's consumption, no sales will take place. The municipality will continue to invest in this regard."

According to the regulation that entered into force on 11.08.2022, if the new power plants to be established in 2019 and after having made additional production at a value above the total amount of energy they consumed last year, this additional production will be given to the grid, free of charge. For example, if the consumer consumed 1 MWh electricity last year and the solar power plant generates more than 1 MWh of excess energy (which means the energy after the consumption of consumer), up to 1 MWh the energy can be sold to the grid and if the produced energy exceeds 2 MWh (1 MWh for consumption and 1 MWh for sale), excess energy will be given to the grid free of charge.

Indirect and direct government incentives for solar power plants include:

- Article 24 of the Regulation on Unlicensed Electricity Generation in the Electricity Market (official newspaper no. 30772 dated May 12, 2019). It is stated that the surplus productions of Solar Power Plant will be purchased for 10 years at the price determined by the supply company by applying within the scope of 5c of the same

regulation with the regulation in the article. The regulation's linking this purchase to a certain period is also considered an indirect incentive of the state.

- In addition, the fact that SPP applications based on self-consumption can be obtained in the same regulation is considered as an indirect incentive.

Laws, decrees and related legislations on which SPP installation and feasibility are based;

- Law:
 - Electricity Market, Law no. 6446 dated 14 March, 2013
 - Environmental Law, Law No: 2872; Date of Ratification: 1983
- Decree:
 - President's Decision, Number of Decision 1044 (10.05.2019/30770)
- Regulation:
 - Regulation on Unlicensed Electricity Generation in the Electricity Market dated 12/5/2019 and numbered 30772 amendment published on Official Gazette No: 31479 dated May 09, 2021, updated on Official Gazette No: 31920 dated August 11, 2022, final update on Official Gazette No: 32120 dated March 02, 2023

International Legal Framework

The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents of World Bank. When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards. These General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users on EHS issues in specific industry sectors. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. It is mandatory to comply with the EHS Guidelines in the ESMP prepared for this subproject, which is planned to be realized with World Bank financing. Besides, other mandatory international legal framework listed as:

- Operational Policies of World Bank (OP 4.01)
- 2010 Policy on Access to Information (for stakeholder analysis)
- Good Practice Note (GPN) on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) (for stakeholder analysis)
- European Union Environment Policy
- ILO conventions

4. Baseline Data

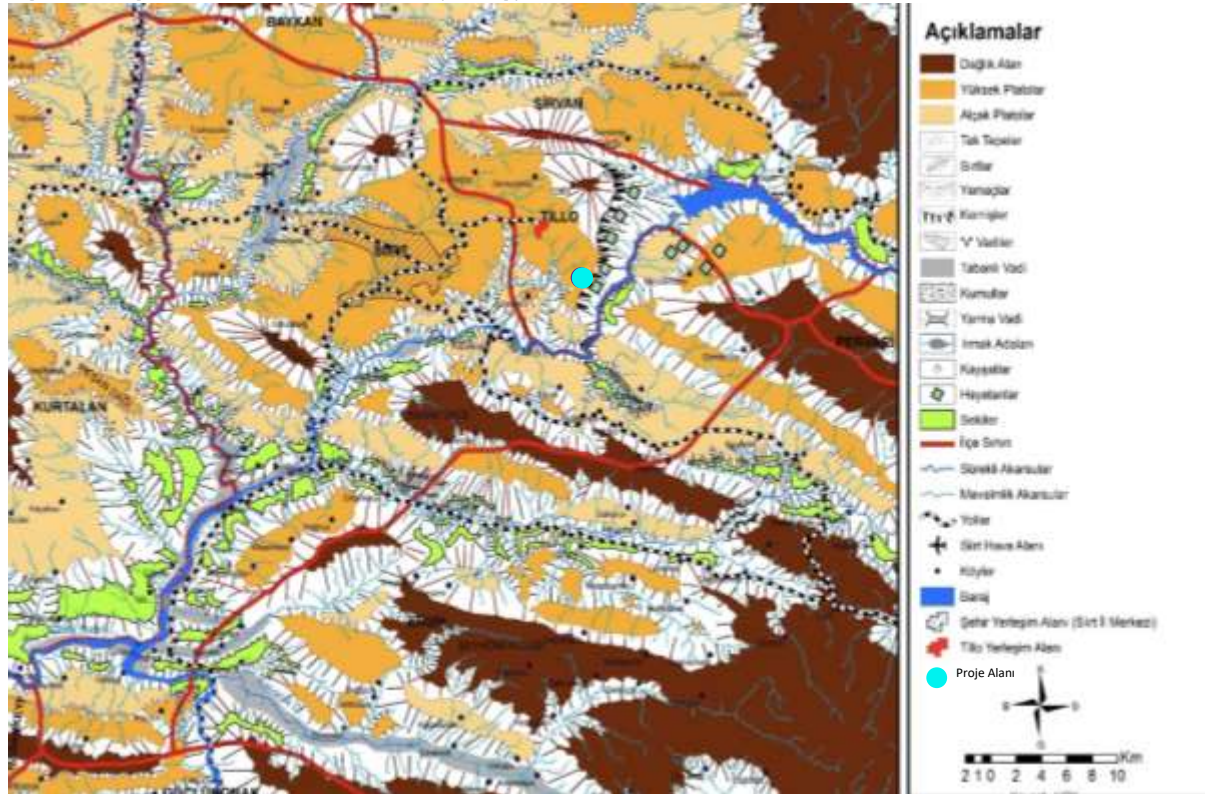
Environmental Baseline

Geography

Siirt is located in the Southeastern Anatolia region, between Şırnak, Van, Batman, Bitlis and Mardin provinces, at 37° 55" north latitude and 41° 57" east longitude. Siirt has 6 districts in total. The largest district is Pervari and the smallest district is Tillo. While the altitude of the city center is 895 meters, Tillo is 300 meter higher than Siirt city center. Tillo district is located at 37.949.250 latitude and 42.011.350 longitude, and its geographical coordinates are 37° 56' 57.3" north 42° 00' 40.9" east. It is approximately 7 km away from the city center. The district has 3 neighborhoods (Fakirullah, Mücahit and Saydanlar) and 6 villages (Çınarlısu, İkizbağlar, Dereyamaç, Çatılı, Taşbalta and Akyayla). The area has a mountainous terrain type and there

is Hillidağı Hill (1178 m.) in the north of the area and Bizbirikeri Hill (963 m.) in the south. There is a landslide risk at the high points of the valleys formed by the Botan Stream (Figure 4: Region of Siirt and Tillo Geomorphology), but the sub-project area is on the other slope of the high hills around the valleys. In other words, while the aspect direction of the project area is west, the aspect direction of the slopes where landslide risk exists is east, that is, while Botan Stream can be seen from these slopes, Botan Stream cannot be seen from the sub-project area.

Figure 4: Region of Siirt and Tillo Geomorphology



Kaynak: (Mut, 2020)

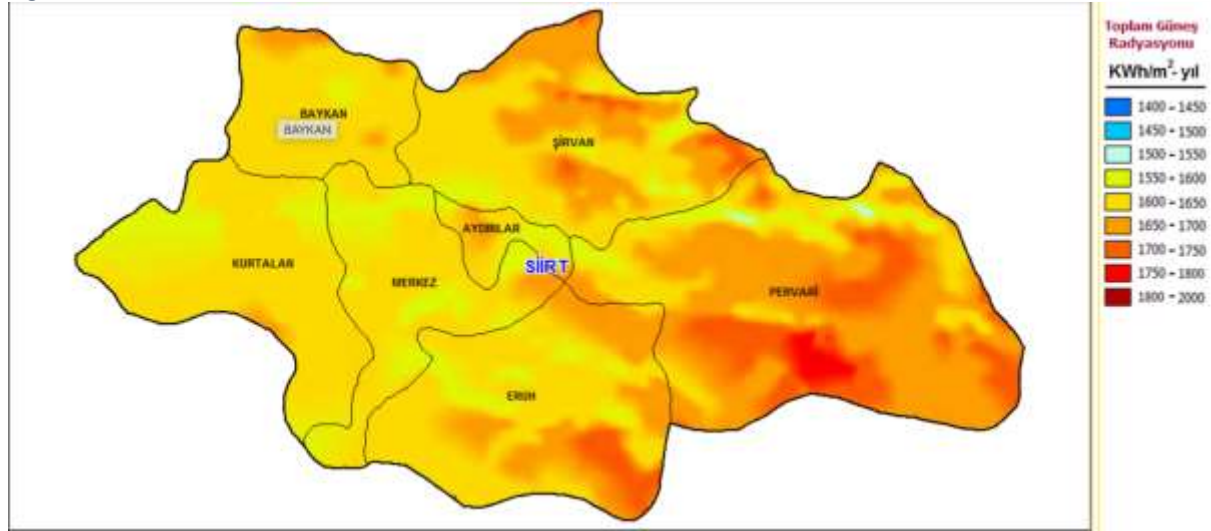
Climate

Tillo District is under the influence of cold and rainy weather from the north, hot and dry weather from the south, and dry weather from the south, and the changes that occur due to the altitude difference of the province affect the climate of the region. As in the rest of Turkey, there are four distinct seasons in Tillo, but generally the continental climate prevails. With the accumulation of water in the dams, of which numbers are increasing on Tigris River day by day, a change in the climate has begun and the spring season is rainier. With the increase in precipitation, the humidity rate began to rise above 40%. The fact that Tillo has a higher and more mountainous terrain than Siirt city center is the reason why the winter months are harsher than other regions, in where altitude is lower.

According to the Solar Energy Potential Atlas, Turkey's annual average total sunshine duration is 2,737 hours, daily total is 7.5 hours, and annual total solar energy is 1,527 kWh/m²/year. It is seen that Tillo's average solar radiation throughout the year is in the range of 1600-1700 KWh/m²/year (Figure 5). Tillo's average solar energy potential is above Türkiye's average. Global radiation values are over 5.00 KWh/m²/day for a total of 6 months, April, May, June, July, August and September, and over 4.00 KWh/m²/day except for January and December (Graphic 1). When the sunshine hours are examined, the month with the highest sunshine

hours is July (11.76 hours) and the month with the lowest sunshine hours is January (3.96 hours).

Figure 5: Siirt Province Solar Atlas



Graphic 1: a) Tillo District Radiation Values b) Tillo District Sunshine Duration c) PV Type -Area-Energy That Can Be Produced



Flora and Fauna

Siirt is located on the broad-leaved forest belt of Eastern Anatolia and the steppe belt of Southeastern Anatolia. Tillo district is located in the steppe belt. In this area, the steppes consist of grasses that green in spring and dry in summer. Some of the vacant lands in the district, that is, steppe areas, are suitable for agriculture, if irrigation is done in these areas, the ratio of steppe areas will decrease.

In addition, in the PID report of the subproject, it was stated that no endangered plant species were found by examining the Red Data Book of Turkish Plants, the Convention on the Protection of European Wildlife and Habitats and Environmental Legislation prepared by the Turkish Nature Conservation Association and Van 100. Yıl University in 2000.

Similarly, similar research findings regarding fauna are included in the PID report. The species that make up the fauna of the subproject area and its immediate surroundings were identified as a result of literature searches, grouped and given in the lists below. In this context, the Convention on the Protection of European Wildlife and Habitats was examined, and no fauna species listed in Annex II and Annex III were found. It is underlined that the provisions of the Bern Convention must be followed during the construction phase of the subproject related to fauna.

Photograph 2: Vegetation of Tillo SPP Subproject Area



Botan Stream National Park

Botan Stream regularly carries plenty of water as a result of the rain in winter and the melting of snow accumulated in summer. The depth of the buried meander in Botan Valley is around 450-500 m. The elevation difference between the valley floor and the peaks of the mountains is approximately 1000 m. Botan Stream, which is of great importance in both district and SPP area, takes its source from the high mountains in the south of Bitlis province and continues to flow first towards the south, then towards the west, and then again towards the southwest. The stream flowing westwards continues in the southwestern direction of Tillo district and Siirt Central district. Botan Stream merges with the Tigris River near Çattepe village.

With the presidential decree no. 1421 published in the Turkish Republic Official Gazette no. 30859, Botan Valley and Stream, within the borders of Siirt District Center, Tillo District and Eruh Districts, was declared a national park on 15 August 2019 due to its geographical and cultural importance.

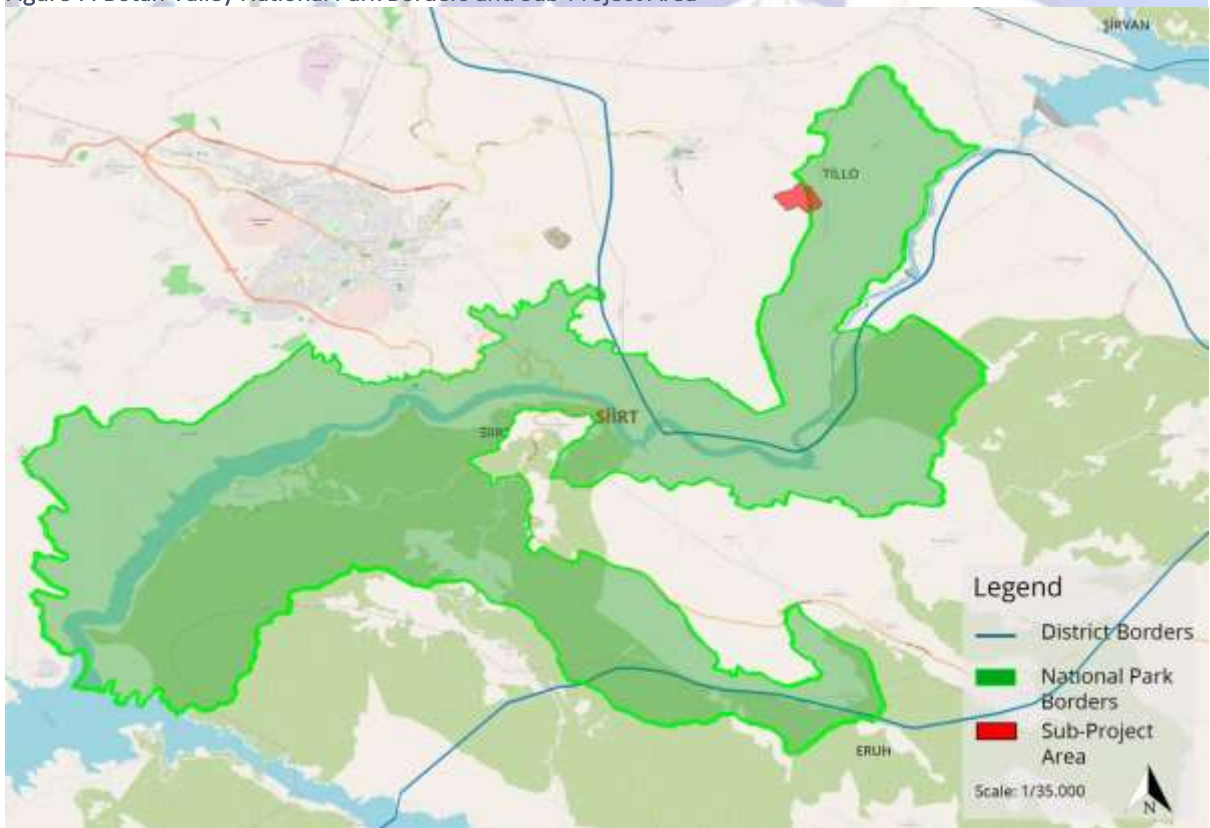
With the presidential decree no. 1421 published in the Turkish Republic Official Gazette no. 30859, Botan Valley, within the borders of Siirt District Center, Tillo District and Eruh Districts, was declared a national park on 15 August 2019 due to its geographical and cultural importance. The size of the area covered by the National Park borders is approximately 120 thousand decares.

In addition, the National Park borders pass through parcel 1 of island 205, where the SPP subproject is located, in other words, a part of this parcel is located within the borders of the national park. Although the existing lot where the project is located is created by subdivision, it is still a very large area and will be established at the farthest distance from the SPP national park. The average distance between the national park and the SPP subproject varies between 500-550 meters.

Figure 6: View of Botan Stream and Dam from the Observation Terrace near the subproject area



Figure 7: Botan Valley National Park Borders and Sub-Project Area



Cultural Heritage

Tillo Castle is located close to the SSP subproject. Tillo Castle is also located within the Botan Valley National Park and its distance to the project area is approximately 1 km. The project does not have any negative impact on the cultural heritage area, and measures have been prepared for the glare and reflection effects. It was registered by the Diyarbakır - Cultural and Natural Heritage Preservation Regional Board with the decision numbered 1835 dated 24.10.2008.

Photograph 3: Botan Valley and Tillo Castle Area (www.aa.com.tr)



Economic Sectors on Tillo District

Pistachio, the district's source of income, are the most important local product. Pistachio cultivation is the most common occupation of urban people. Both the favorable climatic conditions and the high income obtained from high productivity have enabled the local people to make Pistachio their focal point. Although piistachio cultivation is popular in the vicinity, however, as a result of intense migration due to Tillo district's proximity to the center of Siirt, agricultural activity in the district is at a very low level.

Earthquake Risks

An earthquake of magnitude 5.2 occurred in Tillo in 1927, and earthquakes of magnitude up to 7 occurred in and around Siirt province. In the Provincial Disaster Risk Reduction Plan, it is stated that active faults close to Tiilo have the potential to produce earthquakes and the recurrence periods of magnitude 7 earthquakes are approximately every 340 years (AFAD, 2022).

The map obtained from Turkey Earthquake Hazard Maps Interactive Web Application shows that the earthquake risk in Tillo is in the range of $0.6 g \geq PGA \geq 0.4 g$, which indicates that the area is a 1st degree earthquake zone (Figure 9).

Figure 8: Faults in Tillo, General Directorate of Mineral Research and Exploration (MTA)

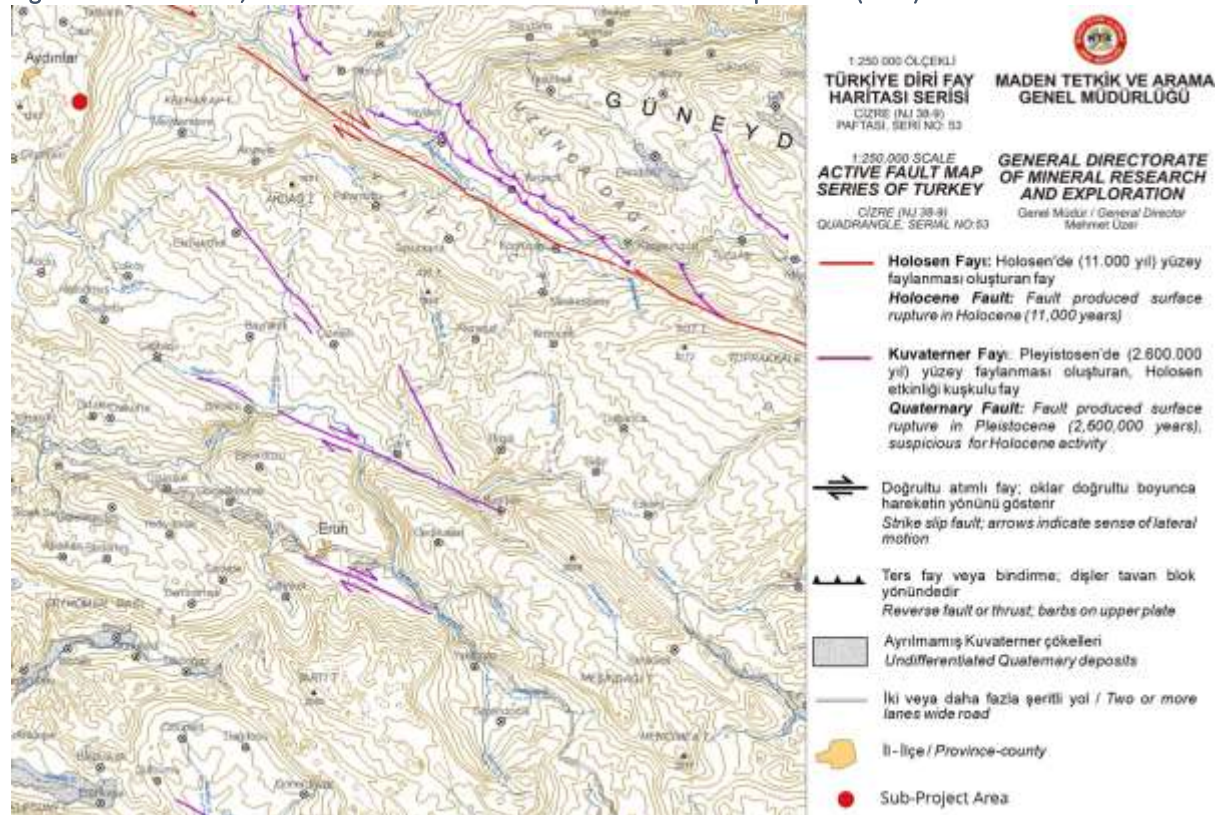
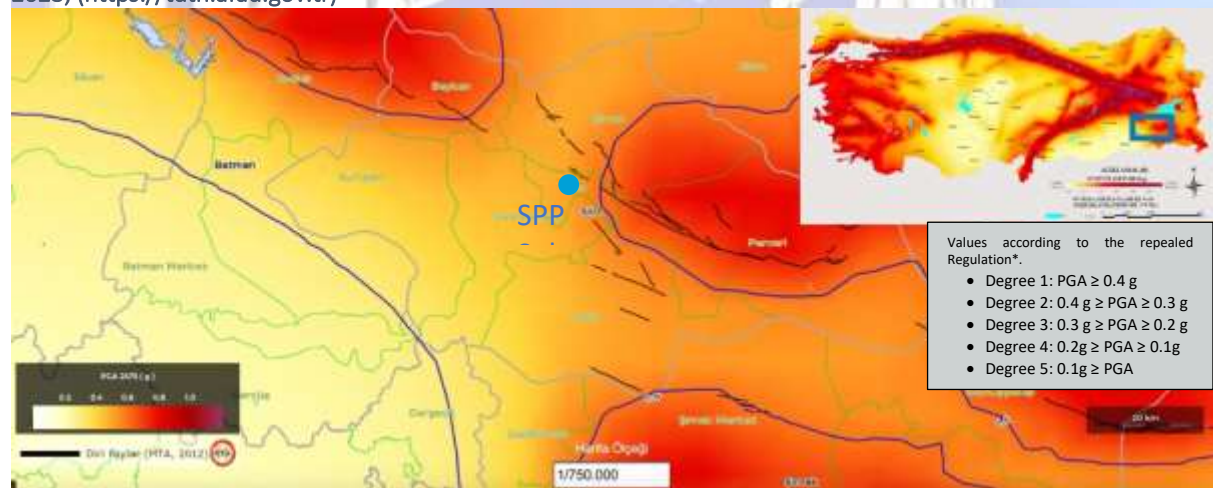


Figure 9: Earthquake Hazard Map of Tillo and Siirt, Türkiye Earthquake Hazard Maps Interactive Web Application, 2023, (<https://tdth.afad.gov.tr>)¹



*Turkey Earthquake Zones Map, which came into force with the decision of the Council of Ministers dated 18.4.1996 and numbered 96/8109, was abolished on 01.01.2019. The New Turkey Earthquake Hazard Map and Building Earthquake Regulation was published in the Official Gazette No. 30364 on 18 March 2018 and entered into force on 01.01.2019.

Flood Risks

Maksu Stream, which passes through Tillo District Center, continues its flow by passing through the settlement center. There are dense settlements on the left banks of Maksu Stream, whose project route is 1.6 km. The average slope of the Maksu Stream project is 4

¹ Hazard map showing the PGA value created for a 10% probability of exceedance in 50 years (475 years of recurrence)

percent. According to hydraulic modeling results, in case of a 500-year recurrent flood flow; It has been determined that backwash will occur as a result of the engineering structure on the Maksu Stream passing through Tillo District Center being filled with sediment. It has been observed that in case of Q500 flow rate, public institution buildings on the left bank downstream of the stream bed in Tillo District Center are likely to be affected by flood waters. However, this does not exist for the subproject area. Due to its sloping land structure, it is not located in the subproject area compared to the urban settlement area. (AFAD, 2022)

Social Baseline

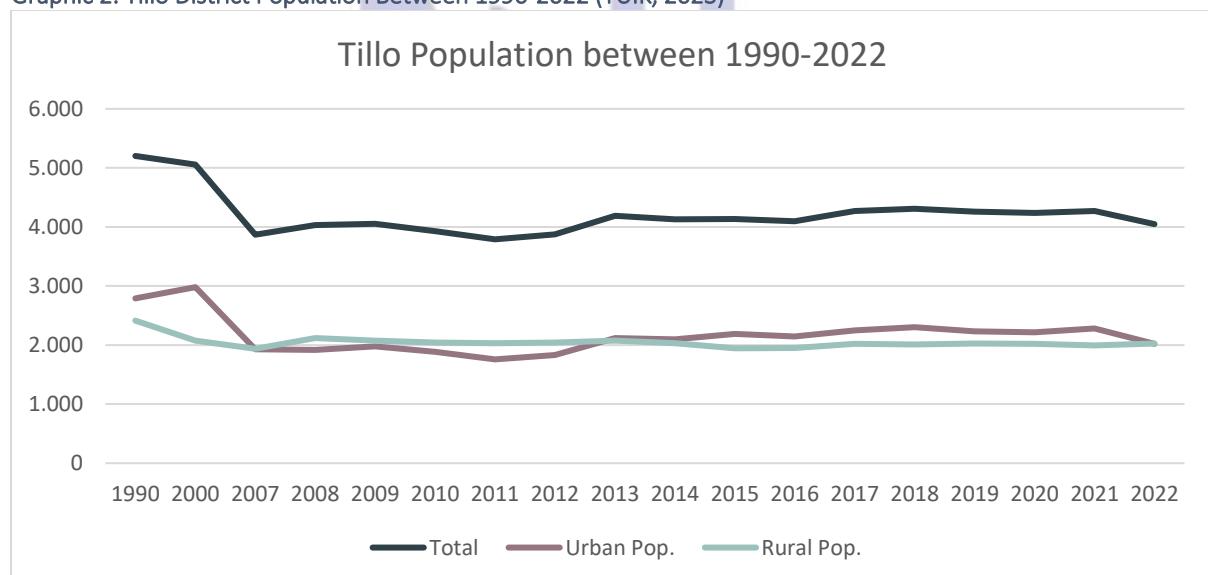
Tillo township was turned into a district with the name "Aydınlar" by law no. 3647 on May 18, 1990. The name of the district was changed to Tillo after the bill submitted to the Presidency of the Turkish Grand National Assembly on October 30, 2013 to change the name of the district to its old name was accepted and became law on October 30, 2013, and was published in the Official Gazette dated November 7, 2013.

The population of Tillo district decreased by approximately 20% between 1990 and 2000. It has been observed that the population of Tillo district has not changed much since the late 2000s. Rural and urban population rates are almost equal. The population density in the urban area in 2022 is 88 people/hectare, and the population density is seen to be quite sparse in the urban area.

Table 3: Tillo District Population Between 1990-2022 (TÜİK, 2023)

Year	Total	Urban Pop.	Rural Pop.	Year	Total	Urban Pop.	Rural Pop.
1990	5.203	2.789	2.414	2014	4.129	2.096	2.033
2000	5.054	2.981	2.073	2015	4.136	2.191	1.945
2007	3.867	1.930	1.937	2016	4.099	2.146	1.953
2008	4.034	1.916	2.118	2017	4.268	2.247	2.021
2009	4.053	1.980	2.073	2018	4.310	2.301	2.009
2010	3.930	1.885	2.045	2019	4.260	2.235	2.025
2011	3.791	1.758	2.033	2020	4.239	2.219	2.020
2012	3.876	1.832	2.044	2021	4.272	2.279	1.993
2013	4.190	2.117	2.073	2022	4.048	2.022	2.026

Graphic 2: Tillo District Population Between 1990-2022 (TÜİK, 2023)



5. Environmental and Social Management Plan

Mitigation Plan for the Land Preparation, Construction and Operation Phases of the Project



Table 4: Mitigation Plan for the Land Preparation, Construction and Operation Phases of the Project

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Responsibility	Key Performance Indicators	Cost
Risk 1: Stripping of the Vegetative Topsoil Layer and Soil Compaction	Constructional Phase I = 3 L =5 Operational Phase I = 0 L =0	<ul style="list-style-type: none"> · Implement re-vegetation plans using native species. · Application of organic soil conditioners to restore soil fertility. · Adjust construction equipment to minimize soil compaction. · Implement proper construction techniques and compaction control. 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Visual observations ESMR Findings	Included in the subproject budget
Risk 2: Leakage of Contaminants into the Soil and Waste and Chemical Storage	Constructional Phase I = 5 L = 1 Operational Phase I = 0 L =0	<ul style="list-style-type: none"> · Develop spill response and cleanup procedures. · Provide spill containment kits at refueling areas. · Implement proper storage practices for waste and chemicals. · Install secondary containment systems. 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Visual observations ESMR Findings	Included in the subproject budget
Risk 3: Noise Resulting from Temporary Traffic Load Noise Caused by Construction Vehicles and Equipment Blasting, Stone, and Rock Removal Vibration Effects	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L =0	<ul style="list-style-type: none"> · Implement traffic management plans to reduce congestion and optimize routes; use noise barriers, if necessary, to reduce noise propagation · Schedule noisy construction activities during the daytime; Equip vehicles and machinery with noise-reduction technologies. · Ensure blasting and rock removal are performed during permitted hours; Implement vibration dampening measures by using isolation mounts, tuned mass dampers, shock absorbers. · Set vibration limits for construction activities. · Notify and compensate affected property owners for any damage 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Traffic Grievance Records Visual observations (such as traffic signs and warnings are placed at appropriate locations) ESMR Findings	Included in the subproject budget
Risk 4: Dust and Exhaust Emissions from Soil Excavation, Vehicle Traffic and Equipment	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L =0	<ul style="list-style-type: none"> · Implement dust control measures, such as watering construction areas. · Use dust screens or barriers to prevent dust dispersion. · Use dust screens or barriers to prevent dust dispersion. · Promote the use of eco-friendly construction equipment. · Pave or stabilize dirt roads to reduce dust emissions. · Enforce speed limits to minimize dust generation. · Maintain vehicles to reduce emissions. · Use low-emission or electric vehicles whenever possible. · Encourage the adoption of clean fuel options. · Develop an emissions control and reporting program. 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Traffic Grievance Records Visual observations (such as traffic signs and warnings are placed at appropriate locations) ESMR Findings	Included in the subproject budget

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Responsibility	Key Performance Indicators	Cost
Risk 5: Temporary Blockage of Transportation Roads between Settlements Traffic Vehicles Cause Destruction on Roads and Buildings	Constructional Phase I = 1 L = 2 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> · Plan construction schedules to minimize road closures. · Provide alternative routes for affected communities. · Communicate road closures in advance to residents. · Employ regular road maintenance and repair. · Ensure construction vehicle operators follow road safety guidelines. 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Traffic Grievance Records Visual observations (such as traffic signs and warnings are placed at appropriate locations) ESMR Findings	Included in the subproject budget
Risk 6: · Chemical Spills and Leaks · Improper Storage and Disposal of Materials · Inadequate Stormwater Management · Inadequate Hazardous Material Handling	Constructional Phase I = 1 L = 1 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> · Wastes falling within the scope of the Regulation on the Control of Waste Electrical and Electronic Equipment should first be stored separately from other wastes in the temporary storage area within the site and in accordance with the provisions of the regulation, T.R. It must be taken from the facility with vehicles that have a transportation license to be evaluated in processing facilities licensed by the Ministry of Environment and Urbanization. · Waste batteries and accumulators must first be stored separately from other wastes in the temporary storage area within the site and must be taken from the facility by vehicles with a transportation license in accordance with the provisions of the Regulation on the Control of Waste Batteries and Accumulators. · Waste oils that may arise as a result of oil change in areas where oil type transformers are used, their categories should be determined by analyzes to be carried out in laboratories authorized within the scope of the Waste Oil Control Regulation, and they should be stored temporarily in specially allocated tanks/containers, separately from other wastes, in the temporary storage area within the field according to their categories, without any mixing process. . In accordance with the provisions of the relevant regulation, they should be removed from the site by vehicles with a transportation license in accordance with their categories and recycled in licensed recycling facilities or, if this is not possible, in licensed hazardous waste disposal facilities. 	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Visual observations ESMR Findings	Included in the subproject budget

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Responsibility	Key Performance Indicators	Cost
Risk 7: · Fragmentation of forest habitats, · Loss of nesting grounds and/or high biodiversity/sensitive habitats of rare, threatened, or endangered species, · Placing obstacles to wildlife movement	Constructional Phase I = 1 L=1 Operational Phase I=0 L=0	· No measures	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Visual observations ESMR Findings	ncluded in the subproject budget
Risk 8: Reflection and Glare Effect	Constructional Phase I = 1 L=2 Operational Phase I=0 L=0	· Establish criteria or thresholds that, when exceeded, trigger the need for mitigation measures. For example, if glare affects specific areas or receptor points significantly, mitigation measures should be initiated. · Develop a detailed procedure for monitoring glare and reflection, including responsibilities, schedules, and data collection methods and regularly report the findings and progress of glare and reflection control measures. · Design of project area according to flight routes.	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Visual observations ESMR Findings	Included in the subproject budget
Risk 9: Effects on Workforce and OHS	Constructional Phase I = 4 L = 2 Operational Phase I = 0 L = 0	· Shaping early detection mechanisms based on results of monitoring measures, · Legal and regular training, · Utilization of occupational health and safety equipment, · Regular worker health checks, · OHS Site management Plan, · Risk Assessment, · Emergency Plan · Control of working hours and work permits, · Regular safety inspections.	Tillo Municipality/PIU Contractor and/or subcontractor Supervision Consultant	Sub-contractor Agreements Grievance Records ESMR Findings	Included in the subproject budget

Monitoring Plan for the Land Preparation, Construction and Operation Phases of the Project

Table 5: Monitoring Plan for the Land Preparation, Construction and Operation Phases of the Project

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Monitoring Measures	Parameters	Method	Sampling Locations	Frequency	Detection Limits
Risk 1: Stripping of the Vegetative Topsoil Layer and Soil Compaction	Constructional Phase I = 3 L = 5 Operational Phase I = 0 L = 0	· Analysis organic matter content and compaction levels of soil in the project site regularly.	· Soil Organic Matter Content · Soil compaction levels	· Sampling and laboratory analysis · Soil compaction tests	· Project site · Areas with construction and traffic intensity	· Before and after topsoil stripping · Periodic checks during and after construction	· Any significant decrease in soil organic matter content · Soil compaction beyond allowable limits
Risk 2: Leakage of Contaminants into the Soil and Waste and Chemical Storage	Constructional Phase I = 5 L = 1 Operational Phase I = 0 L = 0	· Analysis contaminants and waste in the soil of the project site regularly.	· Presence of oil, lubricants, or fuels in soil. · Soil leachate quality.	· Visual inspection, soil sampling, and chemical analysis. · Regular sampling and analysis of leachate.	· Areas near equipment refueling stations and vehicle storage. · Near waste and chemical storage areas	· Regular checks during refueling and maintenance	· Presence of contaminants
Risk 3: Noise Resulting from Temporary Traffic Load Noise Caused by Construction Vehicles and Equipment Blasting, Stone, and Rock Removal Vibration Effects	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L = 0	· Conduct periodic sound level measurements at key locations in areas with traffic during construction. · Regularly measure noise levels during equipment operation in areas with equipment activities. · Continuously monitor vibration and noise levels during blasting operations near blasting sites.	· Noise levels generated by traffic. · Noise levels generated by traffic. · Vibration levels and noise from blasting · Structural and superficial damage from vibrations	· Sound level measurement · Vibration and noise measurements during blasting operations · Visual inspections and structural assessments.	· Areas with traffic during construction · Areas with equipment operation. · Near blasting sites. · Buildings near construction areas.	· Periodic measurements during construction. · Continuous monitoring during blasting activities. · Regular structural assessments during construction.	· Noise levels exceeding acceptable limits. · Vibration and noise exceeding allowable levels. · Signs of structural or superficial damage.
Risk 4: Dust and Exhaust Emissions from Soil Excavation, Vehicle Traffic and Equipment	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L = 0	· Continuous measurement of dust concentration and particulate matter (PM) emissions using air quality monitoring equipment in construction areas with soil excavation.	· Dust concentration and particulate matter (PM) emissions. · Dust concentration and particulate	· Dust concentration measurements using air quality monitoring equipment.	· Construction areas with soil excavation · Traffic-prone areas within the site · Vehicle operation areas	· Continuous monitoring during excavation activities · Periodic measurements	· Dust levels exceeding acceptable thresholds. · Emissions exceeding permissible levels

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Monitoring Measures	Parameters	Method	Sampling Locations	Frequency	Detection Limits
		<ul style="list-style-type: none"> Periodic air quality measurements along traffic routes in traffic-prone areas within the site. Periodic emission measurements from the exhaust systems of vehicles and construction equipment in vehicle operation areas. 	<ul style="list-style-type: none"> matter (PM) emissions. Emissions from vehicles and construction equipment. 	<ul style="list-style-type: none"> Air quality measurements along traffic routes. Emission measurements from the exhaust systems 		<ul style="list-style-type: none"> during project activities Periodic emissions testing during construction and operation 	
Risk 5: Temporary Blockage of Transportation Roads between Settlements Traffic Vehicles Cause Destruction on Roads and Buildings	Constructional Phase I = 1 L = 2 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> Analyzing road blockages, duration, and frequency through real-time assessments of transportation routes. Analyzing damages to roads and buildings by conducting periodic visual assessments in areas where construction vehicles operate. 	<ul style="list-style-type: none"> Road blockages, duration, and frequency. Damage to roads and buildings 	<ul style="list-style-type: none"> Record road closure incidents and duration. Visual inspections, documenting damages. 	<ul style="list-style-type: none"> Vehicle operation areas. Transportation routes. Areas where construction vehicles operate. 	<ul style="list-style-type: none"> Periodic emissions testing during construction and operation. Real-time monitoring of road conditions. Periodic visual assessments 	<ul style="list-style-type: none"> Road closures exceeding acceptable frequency. Occurrence of damages to roads and buildings beyond permissible levels.
Risk 6: <ul style="list-style-type: none"> Chemical Spills and Leaks Improper Storage and Disposal of Materials Inadequate Stormwater Management Inadequate Hazardous Material Handling 	Constructional Phase I = 1 L = 1 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> No measures 					
Risk 7: <ul style="list-style-type: none"> Fragmentation of forest habitats, Loss of nesting grounds and/or 	Constructional Phase I = 1 L=1 Operational Phase I=0	<ul style="list-style-type: none"> No measures 					

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Monitoring Measures	Parameters	Method	Sampling Locations	Frequency	Detection Limits
high biodiversity/sensitive habitats of rare, threatened, or endangered species, · Placing obstacles to wildlife movement	L=0						
Risk 8: Reflection and Glare Effect	Constructional Phase I = 1 L=2 Operational Phase I=0 L=0	<ul style="list-style-type: none"> · Implement visual monitoring protocols to observe and record glare and reflection events. · Use specialized glare measurement tools to provide quantitative data. · Conduct monitoring during different times of the day and under various weather conditions to capture variations. 	<ul style="list-style-type: none"> · The intensity and frequency of glare and reflection from the solar panels and surrounding areas and the times of the day, seasons, or specific weather conditions when glare and reflection effects are most pronounced. 	<ul style="list-style-type: none"> · The intensity and frequency of glare and reflection from the solar panels and surrounding areas and the times of the day, seasons, or specific weather conditions when glare and reflection effects are most pronounced. 	<ul style="list-style-type: none"> · The intensity and frequency of glare and reflection from the solar panels and surrounding areas. 	<ul style="list-style-type: none"> · The intensity and frequency of glare and reflection from the solar panels and surrounding areas. 	<ul style="list-style-type: none"> · Define specific detection limits that indicate the threshold beyond which glare and reflection effects become significant and may require corrective action.
Risk 9: Effects on Workforce and OHS	Constructional Phase I = 4 L=2 Operational Phase I = 0 L=0	<ul style="list-style-type: none"> · To establish an incident reporting system and encourage its use by employees for reporting and documenting workplace incidents, · Regular health assessments according to 6331 Law, its regulation and WB ESP to monitor employees' health conditions and facilitate prompt intervention or preventive measures for emerging health issues, 	<ul style="list-style-type: none"> · Workforce health and safety indicators, including accident rates, workplace stress levels, and health-related incidents/ near misses, injuries, and safety violations/near misses, fire and environmental incidents/near misses 	<ul style="list-style-type: none"> · Data collection through incident reports, health assessments, safety inspections, accident investigations and surveys 	<ul style="list-style-type: none"> · Project site and areas where the workforce is most active and where with heavy equipment use 	<ul style="list-style-type: none"> · Regular and ongoing monitoring during periods of intense construction and operation activities 	<ul style="list-style-type: none"> · Define thresholds for incident rates and workforce stress levels that warrant corrective action

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Monitoring Measures	Parameters	Method	Sampling Locations	Frequency	Detection Limits
		<ul style="list-style-type: none"> · Periodically identifying factors contributing to workplace stress and conducting workplace stress surveys to eliminate stressors, · Regular inspections by relevant regulatory authorities to identify potential hazards in the construction area and alleviate the physical and mental fatigue of workers during intensive construction periods, · Conducting emergency drills to ensure swift action in case of emergencies, and ensuring that all employees are familiar with evacuation procedures and emergency protocols, · Maintaining effective and transparent communication among employees, employers, and relevant stakeholders, establishing continuous communication channels for reporting any safety concerns or issues, · Monitoring and regulating working and break hours to prevent excessive fatigue, ensuring that employees take regular breaks. 					

Measures for Institutional Arrangements, Capacity Development, and Training

In the context of the Sub-Project aiming to increase renewable energy production in the Tillo district, institutional arrangements for managing environmental and social issues need to be established to ensure its implementation with minimized potential impacts. In the Environmental and Social Management Framework of the World Bank's Sustainable Cities Project-II Additional Financing (World Bank, 2019), ILBANK Project Management Unit (PYB), and the project owner municipalities are identified as key actors. Roles and capacities of actors should be defined, and necessary adjustments should be made for the effective implementation of sub-projects. For the SPP project to be constructed in the Tillo district, the main actors are the World Bank, ILBANK, Tillo Municipality, Contractor, Supervision Consultant, and E&S Consultant.

Tillo Municipality

Renewable energy projects in Tillo Municipality are managed by the Technical Works Directorate with a staff of three, including an environmental engineer, a civil engineer, and a land surveyor. There is currently no unit used as a complaint mechanism in Tillo Municipality. According to the ESMP, the Technical Works Directorate, Research Project Directorate, Plan-Project Directorate, Headman Affairs, Human Resources and Training Directorate, and Culture and Social Affairs Directorate teams within the municipality should be involved in a Project Management Unit.



Table 6: Roles and Responsibilities of Main Actors of SPP Subproject

	Tillo Municipality	ILBANK	WB	Contractor	Supervision Consultant	E&S Consultant
Financial Roles	Requestor	Financial intermediary	Main finance source			
Application Process	Submit Demand Based Applications	Review / analyze the applications in order to provide information to WB Prepare Tillo Municipality's subproject documents in accordance with WB requirements,	Concur the final selection of eight participating municipalities.			
Preparation Process	Welcome and apply the relevant laws and regulations that are introduced by WB through ILBANK	Coordinate the selected municipalities to ensure all the relevant rules and regulations will be adopted throughout the project. Organize internal working structure for the investment options. Although the project site is in the low risk category, in case of need, Tillo Municipality officials and consultants are guided on WB requirements (documents and procedures) regarding impact factors such as cultural assets, land acquisition and involuntary settlement, natural habitats, forests and	Assist ILBANK in Developing Performance and Monitoring Database system during the preparation phase. Provide technical guide for ILBANK. Implementation and inspection of the ESMP of the subproject and development of recommendations	Ensure compliance with all requirements of the ESMF and management plans. Ensure conformity with project standards and obtaining all relevant permits and licenses	Identify and managing environmental, social, and OHS-related risks	Preparing Environmental and Social Assessment Reports, i.e., ESMF and Resettlement Action Plans (and, if necessary, RAP/LRP), for approval by ILBANK and the World Bank.
Number of Staff	One Social and One Environmental Expert	In addition to present team, a support team can be established. Structure of the team and qualification of team	Assist ILBANK in establishing monitoring team.		Employe competent Environmental, Social, and OHS Experts (at least one Social Expert, one	

		members will be defined by ILBANK and WB. Individual freelance consultants can be employed.			Environmental Expert, and one OHS Expert) within the scope of the project	
Project Roles	Preparation of ESIA, ESMP and Grievance Mechanism	The main responsible for monitoring ESIA, ESMP and Grievance process Provide written comments to consultants	Overall review of the project development stages		Draft time-bound action plans for the contractor in case of non-compliance	
	Tendering all the project works and consulting services	Supervise and monitor the whole process to ensure the proper application of the WB's environmental and social safeguard policies are applied.	Review of incoming reports to see the Bank standards are in progress. Recommend additional measures to strengthen the management framework and improve implementation performance.			
Disclosure Roles	Disclose ESMP on official website of municipalities after approval of Ilbank and WB	Confirm and Disclose the ESMP on Ilbank's official website Disclosure of official approval of environmental and social assessment documents and related procedures for the project in accordance with WB safeguarding requirements, to perform the overall quality assurance function to ensure that EA documents meet WB requirements	Confirm and Disclose the ESMP on WB's official website			
Construction Phase Responsibilities	Prepare tender documents for the construction process.	Obtaining the opinions of affected groups and local environmental/social experts on the	Visit project sites from time to time, when necessary, as part of the project	Implement all commitments determined by Tillo Municipality.	Guide Tillo Municipality officials and consultants in the	

1958

		environmental and social aspects of the project implementation and organizing field visits with these groups when necessary			implementation of World Bank requirements (documents and procedures) in the E&S framework after approval by Tillo Municipality	
	Conduct tenders in accordance with public procurement legislation and WB legal requirements.	Coordinating and communicating with WB inspection officers regarding the environmental and social protection measures of the project implementation in organizing field visits.		Supervise the construction and/or rehabilitation works and installation of equipment	Ensure the provision of sufficient capacity to carry out C&S audits effectively in accordance with ESMF requirements when the implementation of mitigating measures by the Contractor is deemed necessary	
	Share the ESMP with the Contractor, guide the Contractor in preparing sub-management plans, and approve these plans.					
	Update the ESMP when necessary and share additional commitments with the Contractor.					
	Coordinate actions and evaluations in case of changes due to engineering/design changes, route/location changes, legislative changes related to environmental and social issues, authorization provision changes, new environmental/social data, construction/operation strategy changes.					

1958

Monitoring Roles	Evaluate performance indicators, environmental reviews, monitoring, inspections, and results related to ESMP applications.	Monitoring the implementation of ESMP and other environmental and social mitigation measures, auditing Tillo Municipality's ESMP implementations and documenting performance, recommendations, and other necessary steps within the scope of overall project supervision	Oversee the project in accordance with WB Safeguard Policies and provide technical support and guidance	Monitore construction activities (including subcontractor activities) and taking and implementing measures within the scope of the ESMF	Report environmental audits, monitoring, and inspections related to E&S practices to Tillo Municipality.	
	Prepare Environmental and Social Monitoring Reports (ESMRs) every three months, submit them to ILBANK, and inform them.	Inform WB through Environmental and Social Monitoring Reports (ESMRs) to be submitted by Tillo Municipality every three months.		Submit Monthly Environmental and Social Monitoring Reports (ESMRs) to the Project Owner Municipality	Monitore and evaluate the performance of services provided by the contractor	
	Monitor contractor activities.	Submit Project Progress Reports to WB every 6 months.			Ensure regular (monthly) reporting of the Contractor's C&S performance to the Municipality and ILBANK	
Training Responsibilities	Provide necessary training on Environmental and Social Management issues to Project Management Unit (ILBANK) and relevant directorates.				Provide necessary environmental and social training to the contractor and subcontractor personnel	
Urgent Action Roles	Ensure compliance with project standards and take urgent actions in case of non-compliance.			Promptly notifying the Project Owner of unexpected situations, such as environmental, social, and occupational issues or accidents, incidents, or time loss, and maintaining an on-site incident log throughout the	Ensure the tracking and analysis of environmental and social incidents	

1958

				project lifespan. An incident report, including root cause analysis and corrective actions needed, will be submitted to ILBANK and the World Bank within 30 days.		
	Halt work in any situation threatening the environment, community, and occupational health and safety.				notify ILBANK and the Municipality, exercising the contract authority in case non-compliance persists	
	Analyze and monitor environmental and social accidents/incidents.					
Stakeholder participation Roles	Ensure stakeholder participation, implement the grievance redress mechanism, and ensure continuous information transfer through open communication.	Provide guidance on public participation and announcement requirements when necessary			Provide guidance on public participation and announcement requirements in accordance with World Bank requirements	Taking part in organizing the introduction ESMP to the public and NGOs within the scope of the project and stakeholder engagement events



BELEDİYESİ

1958

Implementation of ESMP Disclosure

Ensuring the full integration and implementation of this ESMP into all project preparation and planning activities constitutes one of the key responsibilities of Tillo Municipality. It will provide a framework for all physical works and participation processes within the scope of the project. It will be an integral part of the matrices prepared for the tender processes related to physical works. The technical requirements, conservation, preservation, and monitoring measures outlined in the ESMP will be strictly adhered to in the tender documents, and it will be explicitly stated that the processes will be subject to review according to this plan.

The ESMP, prepared in accordance with the requirements of the World Bank Safeguard Policies, will be publicly disclosed and will be the responsibility of ILBANK. Tillo Municipality will publish the final approved ESMP on its website. Additionally, a unit, easily accessible by affected groups such as Muhtar offices and local NGOs as outlined in the Stakeholder Analysis section of this plan report, will be established.

Like all management plans, the ESMP has a dynamic structure. It will be periodically reviewed during the implementation and operation phases of the project, deficiencies, malfunctions, and issues will be reported, and based on these reports, it will be updated and approved when deemed necessary. For each approved updated version of this ESMP, Tillo Municipality is responsible for sharing it with the public and providing explanations through communication channels. Thus, the implementation of the ESMP and the actions taken during the implementation process will be transparently shared with the public. The ESMP and Stakeholder Engagement Mechanism must be disclosed to all stakeholders and the public as part of environmental and social impact assessment studies.

It is expected that this ESMP will be completed by the Consultant before the project's implementation phase. Documents necessary for the implementation of the ESMP should also be prepared accordingly, and each system required for the project, such as the Grievance Redress Mechanism, should be explained.

Institutional Capacity Building and Training

The Project Owner, Tillo Municipality, will conduct a training and awareness program covering the expectations and commitments of the ESMF. The Supervision Consultant, in collaboration with the Project Owner, needs to organize a workshop to identify priority topics for the training. The target audience for the training programs includes employees and contractors responsible for implementing the ESMP. The Project Owner must provide training to employees and subcontractors before the construction phase begins. The training is expected to last at least two days and should be held twice a year. Depending on the level of responsibility for implementing the ESMP, advanced training programs should also be considered.

The code of conduct, including compliance with behavioral rules addressing gender-based violence, sexual harassment, sexual exploitation, and abuse, will be explicitly stated in the personnel's contract terms. The consequences of non-compliance with behavioral rules will be clearly outlined in the contract. Measurement and evaluation should be conducted at the end of the training provided to personnel.

This aims to enhance the competence of the personnel. Based on the review results, adjustments to the training program can be made if necessary, including changes in trainers or repeating the training. The training program/modules will cover a range of topics, including but not limited to:

- Objectives of the ESMF concerning project activities,
 - Workshops by ILBANK to familiarize municipalities and their potential consultants with WB safeguard policies
 - Requirements in management plans and monitoring activities to be conducted within this framework,
-
- Environmental and social data collection, reporting, and monitoring,
 - Understanding sensitive environmental and social receptors in the project area and surroundings,
 - Raising awareness about potential risks and impacts arising from project activities,
 - Trainings related to management of air emissions, waste management, etc.
 - Routine training on fire safety and first aid
 - Complaints redress mechanism developed within the project scope, the officer responsible for the mechanism, and employee rights,
 - Risks and measures related to community health and safety, personal protective equipment and information on works and occupational safety
 - Occupational health and safety, first aid, emergency preparedness, and emergency scenarios
 - Rules for maintaining behavior and workplace harmony,
 - Communication with the local community,
 - Training on behavioral rules covering gender-based violence, sexual harassment, sexual exploitation, and abuse,
 - Principles of traffic and road safety,
 - Waste separation, storage, and training on environmental planning
 - Capacity building activities such as training, workshop, study tours
 - ESF Borrower Training roll out program.

Environmental and Social Monitoring Report

The Environmental and Social Monitoring Report serves as a crucial tool for recording performance indicators, parameters, and measurement values at specified intervals to be used in the measurement of safeguards and monitoring measures. It is critical for anticipating potential issues that may arise throughout the project's life cycle and determining mitigation, reduction, and improvement strategies to effectively address these issues. The results will be assessed for compliance with established standards by comparing them with national legislative requirements and the World Bank EHS Guidelines. Visual observations, along with documented significant issues, will be presented in written form. The report should focus on both positive practices and negative findings, with photographic evidence supporting negative observations. For each negative observation, a corrective action should be proposed with a reasonable deadline. Any analysis/sample collection/measurement report should be provided as an annex to the report, along with the relevant assessment and required improvement activities. The findings of the Environmental and Social Monitoring Reports will ensure the dynamic and living nature of this ESMP. Therefore, the ESMP should be reviewed and revised by the Municipality's PIU unit based on these findings.

Long-term monitoring reports are used to objectively evaluate the environmental and social performance of the project and determine its sustainability. This is a vital tool for understanding the long-term impacts of the project, developing strategies for future similar projects, and keeping the ESMP updated over time. Monitoring reports identify issues that can be improved and localized by assessing the project's environmental and social governance. It is expected to be used to develop strategic management to strengthen relationships among stakeholders influenced by the project and minimize its impacts.

Additionally, long-term monitoring reports are used to evaluate the project's societal acceptance and reputation. Continuous communication with stakeholders, obtaining feedback, and developing effective response strategies to this feedback are important in this regard. The experience gained will contribute to identifying potential problems in advance and developing emergency intervention strategies.

Documenting and monitoring the environmental and social performance of the project for the World Bank and ILBANK enhances trust in the project and increases the municipality's future financial reliability. Furthermore, monitoring reports contribute to the development of good practice standards in the renewable energy sector, the widespread implementation of similar projects at the district and even provincial levels, and the localization of relevant standards, thereby contributing to regional development and sustainable development goals. In addition to all these, it will provide an important baseline for physical spatial planning studies that determine the future of cities. It is expected to generate important data in terms of identifying criteria that can be used in determining suitable areas for renewable energy and integrating them into planning processes. Long-term evaluations obtained through monitoring reports will be crucial for ensuring the sustainability of planning decisions throughout the life cycle of projects, assessing environmental and social changes, and providing opportunities to enhance planning processes.

Implementation Program and Cost Estimates

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Monitoring Measures	Responsibility	Cost
Risk 1: Stripping of the Vegetative Topsoil Layer and Soil Compaction	Construction Phase I = 2 L = 5	<ul style="list-style-type: none"> Implement re-vegetation plans using native species. Application of organic soil conditioners to restore soil fertility. Adjust construction equipment to minimize soil compaction. Implement proper construction techniques and compaction control. 	<ul style="list-style-type: none"> Analysis organic matter content and compaction levels of soil in the project site regularly. 	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change Kırıkkale University	Included in Project budget
	Operational Phase I = 0 L = 0				
Risk 2: Leakage of Contaminants into the Soil and Waste and Chemical Storage	Construction Phase I = 1 L = 1 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> Develop spill response and cleanup procedures. Provide spill containment kits at refueling areas. Implement proper storage practices for waste and chemicals. Install secondary containment systems. 	<ul style="list-style-type: none"> Analysis contaminants and waste in the soil of the project site regularly. 	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change Kırıkkale University	Included in Project budget

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Monitoring Measures	Responsibility	Cost
Risk 3: Noise Resulting from Temporary Traffic Load Noise Caused by Construction Vehicles and Equipment Blasting, Stone, and Rock Removal Vibration Effects	Construction Phase I = 1 L = 4 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> Implement traffic management plans to reduce congestion and optimize routes; use noise barriers, if necessary, to reduce noise propagation Schedule noisy construction activities during the daytime; Equip vehicles and machinery with noise-reduction technologies. Ensure blasting and rock removal are performed during permitted hours; Implement vibration dampening measures by using isolation mounts, tuned mass dampers, shock absorbers. Set vibration limits for construction activities. Notify and compensate affected property owners for any damage 	<ul style="list-style-type: none"> Conduct periodic sound level measurements at key locations in areas with traffic during construction. Regularly measure noise levels during equipment operation in areas with equipment activities. Continuously monitor vibration and noise levels during blasting operations near blasting sites. 	<ul style="list-style-type: none"> Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change Kırıkkale University, Contractor/Sub contractor(s) 	Included in Project budget
Risk 4: Dust and Exhaust Emissions from Soil Excavation, Vehicle Traffic and Equipment	Construction Phase I = 1 L = 4 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> Implement dust control measures, such as watering construction areas. Use dust screens or barriers to prevent dust dispersion. Use dust screens or barriers to prevent dust dispersion. Promote the use of eco-friendly construction equipment. Pave or stabilize dirt roads to reduce dust emissions. Enforce speed limits to minimize dust generation. Maintain vehicles to reduce emissions. Use low-emission or electric vehicles whenever possible. Encourage the adoption of clean fuel options. Develop an emissions control and reporting program. 	<ul style="list-style-type: none"> Continuous measurement of dust concentration and particulate matter (PM) emissions using air quality monitoring equipment in construction areas with soil excavation. Periodic air quality measurements along traffic routes in traffic-prone areas within the site. Periodic emission measurements from the exhaust systems of vehicles and construction equipment in vehicle operation areas. 	<ul style="list-style-type: none"> Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change Kırıkkale University, Contractor/Sub contractor(s) 	Included in Project budget
Risk 5: Temporary Blockage of Transportation Roads between Settlements Traffic Vehicles Cause Destruction on Roads and Buildings	Construction Phase I = 1 L = 3 Operational Phase I = 0 L = 0	<ul style="list-style-type: none"> Plan construction schedules to minimize road closures. Provide alternative routes for affected communities. Communicate road closures in advance to residents. Employ regular road maintenance and repair. Ensure construction vehicle operators follow road safety guidelines. 	<ul style="list-style-type: none"> Analyzing road blockages, duration, and frequency through real-time assessments of transportation routes. Analyzing damages to roads and buildings by conducting periodic visual assessments in areas where construction vehicles operate. 	<ul style="list-style-type: none"> Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change Kırıkkale University 	Included in Project budget

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Monitoring Measures	Responsibility	Cost
Risk 6: · Chemical Spills and Leaks · Improper Storage and Disposal of Materials · Inadequate Stormwater Management · Inadequate Hazardous Material Handling	Construction Phase I = 1 L = 1 Operational Phase I = 0 L = 0	· No measures	· No measures	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change · Kırıkkale University	· Included in Project budget
Risk 7: · Fragmentation of forest habitats, · Loss of nesting grounds and/or high biodiversity/sensitive habitats of rare, threatened, or endangered species, · Placing obstacles to wildlife movement	Construction Phase I = 1 L=1 Operational Phase I=0 L=0	· No measures	· No measures	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change · Kırıkkale University	· Included in Project budget
Risk 8: Reflection and Glare Effect	Construction Phase I = 1 L=2 Operational Phase I=0 L=0	· Establish criteria or thresholds that, when exceeded, trigger the need for mitigation measures. For example, if glare affects specific areas or receptor points significantly, mitigation measures should be initiated. · Develop a detailed procedure for monitoring glare and reflection, including responsibilities, schedules, and data collection methods and regularly report the findings and progress of glare and reflection control measures. · Design of project area according to flight routes.	· Implement visual monitoring protocols to observe and record glare and reflection events. · Use specialized glare measurement tools to provide quantitative data. · Conduct monitoring during different times of the day and under various weather conditions to capture variations.	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change · Kırıkkale University, Contractor/Sub contractor(s)	· Included in Project budget
Risk 9: Effects on Workforce and OHS	Construction Phase I = 4 L=1 Operational Phase I=0 L=1	· Shaping early detection mechanisms based on results of monitoring measures, · Legal and regular training, · Utilization of occupational health and safety equipment, · Regular worker health checks, · OHS Site management Plan, · Risk Assessment, · Emergency Plan	· To establish an incident reporting system and encourage its use by employees for reporting and documenting workplace incidents, · Regular health assessments according to 6331 Law, its regulation and WB ESP to monitor employees' health conditions and facilitate prompt intervention or	Tillo Municipality, Provincial Directorate of Environment, Urbanization and Climate Change · Kırıkkale University, Contractor/Sub contractor(s)	· Included in Project budget

Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Mitigation Measures	Monitoring Measures	Responsibility	Cost
		<ul style="list-style-type: none"> Control of working hours and work permits, Regular safety inspections. 	<ul style="list-style-type: none"> preventive measures for emerging health issues, Periodically identifying factors contributing to workplace stress and conducting workplace stress surveys to eliminate stressors, Regular inspections by relevant regulatory authorities to identify potential hazards in the construction area and alleviate the physical and mental fatigue of workers during intensive construction periods, Conducting emergency drills to ensure swift action in case of emergencies, and ensuring that all employees are familiar with evacuation procedures and emergency protocols, Maintaining effective and transparent communication among employees, employers, and relevant stakeholders, establishing continuous communication channels for reporting any safety concerns or issues, Monitoring and regulating working and break hours to prevent excessive fatigue, ensuring that employees take regular breaks. 		

6. Stakeholder Analysis

This Stakeholder Analysis is based on the relevant Turkish legislation and international regulations by considering the project is exempt from EIA and classified as a Category B Project according to the WB OP 4.01. In conformity, relevant WB OPs (i.e., WB OP 4.01 and WB's 2010 Policy on Access to Information) and EU Directives. In this regard, the relevant national and international policies considered are given below.

Stakeholder Identification and Analysis 1958

The purpose of a stakeholder identification is to determine and prioritize the project stakeholders for consultation that may be affected (either directly or indirectly in positive or negative way) by the project or that have an interest in the project but are not necessarily directly impacted by it.

The following categories of stakeholders have been identified as being affected by or potentially interested in the Tillo Municipality Solar Power Project.

- Project affected parties,

- National governmental and non-governmental organizations (NGOs),
- Local governmental organizations and NGOs,
- Residents (potentially PAPs including landowners/users/ renters/ informal users of the lands),
- Local businesses
- Vulnerable groups
- Refugees

In the stakeholder identification process, the dynamics between the stakeholders, the risks, and opportunities of being involved in the project are considered. The basis of stakeholder identification is the level of interest and interaction with the project. Accordingly, stakeholders can be grouped under the following categories.

- Direct Stakeholders
- Indirect Stakeholders
- Other Interested Parties

Within the scope Tillo Municipality Solar Power Plant Project of this project, a comprehensive list of the internal and external stakeholders is given in Table 7.

Table 7: Comprehensive List of the Stakeholder Identified for the Project

Stakeholder Groups	Level of Interest	Level of Influence
Direct Stakeholders		
Directly Affected Communities		
Residents in the project area of influence	Moderate	Low
Vulnerable individuals/groups in the project area of influence	Low	Low
SuTP living in project areas of Siirt	Low	Low
Formal or informal users of lands allocated to the project	Low	Low
Public Administrations at National Level		
The Ministry of Environment, Urbanization and Climate Change.	Low	Low
Ministry of Energy and Natural Resources	High	High
Turkish Energy Market Regulatory Board	Low	Low
Ministry of Industry and Technology	Low	Low
General Directorate of Energy Affairs	High	High
General Directorate of ILBANK	High	High
Directorate General of Migration Management	Low	Low
Public Administrations/Authorities/Agencies at Provincial Level		
Tillo Municipality	High	High
Tillo Governorate	Medium	Medium
Provincial Directorate of Environment, Urbanization and Climate Change	Moderate	High
Mukhtar of Mücahit Neighborhood	Moderate	High
Başkent Electricity Distribution Company	High	High
Contractors/Sub-contractors and Supervision Consultant Companies	High	High
Indirect Stakeholders		
Indirectly Affected Communities		
Residents outside of the project area of influence	Low	Low

Stakeholder Groups	Level of Interest	Level of Influence
Direct Stakeholders		
Vulnerable individuals/groups outside of the project area of influence	Low	Low
Public Administrations at National Level		
Ministry of Agriculture and Forestry	Low	Low
Public Administrations/Authorities/Agencies at Provincial Level		
Governorship of Tillo	Low	Moderate
Provincial Directorate of Disaster and Emergency	Low	Low
Provincial Directorate of Health	Low	Low
Tigris Development Agency	Low	Low
Turkish Employment Agency (IS-KUR) –Siirt Branch	Low	Moderate
Other Interested Parties		
Chamber of Environmental Engineers	High	High
International Solar Energy Society (GUNDER)	Moderate	Moderate
International Refugee Rights Association	Low	Low
Business enterprises located in the Project area	Moderate	Moderate
Siirt University	Low	Low

The types and causes of exposures and how above-mentioned stakeholder groups are affected (positive/negative) are given in Table 8.

Table 8: The Potential Impacts of Project Activities on Social Components

Social Component	Type of Potential Impact (Positive/Negative)	Potential Impact Definition
Emergency Response	Positive	After the increase in the electricity prices in Turkey, municipalities are having difficulties paying them. After the implementation of this project, it is expected to be offset the energy demand and decrease in carbon footprint.
Local Employment	Positive	Employment opportunities for local engineers and manpower.
Transportation/Traffic	Negative	Safety issues due to increase in traffic, damages on roads, generation of greenhouse gas emissions / noise.
OHS and Community H&S	Negative	Water pollution, air emissions/noise and visual pollution
Tourism	Negative	Aesthetic issues.

As part of the stakeholder identification process, it is also important to identify individuals and groups that may be differentially or disproportionately affected by the Project because of their disadvantaged or vulnerable status. The potential vulnerable/disadvantaged groups can be listed as follows:

- Households with physically and / or mentally disabled family members,

- People with chronic diseases,
- Elderly people over 65 years of age who live alone and in need of care,
- Female-headed households,
- Households where the head of the household is a child,
- Households with low or no income, and
- Refugee households.

Considering the potential vulnerable/disadvantaged groups, the summary of project stakeholder needs is given in Table 9.

Table 9: Potential Vulnerable/Disadvantaged Groups and their needs

Community	Stakeholder group	Key characteristics	Language needs	Preferred notification means (e-mail, phone, radio, letter)	Specific needs (accessibility, large print, childcare, daytime meetings)
Kurtulus Neighborhood	Parents with young children	The number of households affected and which of children - To be Determined (TBD)	Official language	Written information, radio	Childcare for meetings—late afternoon preferred timing
	Refugees	The number of extended families TBD, poverty level	Language alternative	Visit with translator and civil society representative	Graphics, education on process
	Persons with disability	The number of disabled person TBD	Official language and/or sign language	Written information, radio and/or face-to-face with competent person on sign language if possible	Accessibility i.e., providing transportation
	Other groups	The number of person TBD	Official language	Written information, radio Visit at their own places	Graphics, education on process

Stakeholder Engagement Plan

Stakeholder Engagement is a control mechanism that ensures the implementation of key principles during the project. The engagement activities will not be scheduled in a manner due to the small capacity of solar power plant project. To maximize stakeholder engagement, it prevents disruption of local stakeholders' daily work and regulates the timing and number of engagement activities. Accordingly, recording the findings and feedback together in accordance with all engagement activities, sharing them with the responsible parties, and following the process are essential. Also, engagement activities need to be culturally

appropriate, provide equal access to relevant stakeholders, and enable their feedback. No stakeholder engagement activities will be scheduled for this project.

Grievance Mechanism

Tillo Municipality will establish a Grievance Redress Mechanism (GRM) to receive, resolve, and follow the concerns and complaints of the Project affected communities. All grievances will be effectively received, recorded, and responded to within a predetermined timeline and based on their contents.

At the earliest convenience, the stakeholders will have access to Tillo Municipality PIU and Contractor dedicated CLOs for responses to responses to grievance. Stakeholders will be informed on the Satisfactory responses to the grievances and corrective activities. The GM for the stakeholders will be operated according to the following procedure.

1. Following tools will be used so that all stakeholders can be informed regarding the Project's GRM process:
 - Web page
 - Email address
 - Public meetings
 - Telephone
 - Frequently Asked Questions (Brochure, web page, bulletin, etc.)
2. Grievances can be submitted by the channels outlined below:
 - Telephone (Call Center and units): +90 484 461 20 07
 - Personal visit to Tillo Municipality and Contractor head office/branches
 - Grievance boxes (installed at the Tillo Municipality Units / Contractor)
 - Relevant public administrations (district governorship, municipality, headmen)
 - Email : info@siirt.bel.tr
 - Meetings
 - Staff and local communication desk of Tillo Municipality / Contractor
 - By written petition to Tillo Municipality / Contractor
 - During site visits and miscellaneous
3. All the submitted grievances are collected at the GRM Section of PIU Department.
4. The submitted grievances are recorded in databases by CLOs of PIU and Contractor.
5. PIU and Contractor CLOs or any contact person who received the grievance confirm the grievance reception via phone and/or email within 2 days.
6. The response to the relevant grievance will be drafted by CLOs of PIU / Contractor and approved by Project Managements.
7. After responding to the relevant grievance, necessary revisions will be made on the Grievance Form with respect to the result of GM process which will be communicated with relevant Complainant within 10 working days. The required actions for valid grievances will be taken within 15 working days. If applicant accepts the resolution within 30 days, the submitted grievance is marked as closed. If the applicant does not sign-off Complaint Close-Out Form due to insufficient satisfaction, a meeting will be organized by the PIU management on relevant complaint and if necessary, with the participation of Contractor. The complainant can participate this meeting to submit his/her Project-related concern face to face to the management. The aim of this meeting is to find alternative solutions of which both parties agree with.
8. All the grievances will be monitored by recording them via the monitoring and evaluation system which will be established within the scope of GM.
9. Regarding grievances received by Contractor; the grievances which are within the scope of Contractor responsibility will be handled by itself and reporting to the PIU during monitoring activities. The grievances within the scope of Tillo Municipality responsibility will be

immediately communicated with PIU by Contractor and handled by the PIU accordingly. Contractor CLO is responsible for recording and tracking grievances.

10. If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions. Such institutions can be summarized as follow:

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

During construction and operational activities, the GRM described above shall continue to be driven by stakeholders' views, making this procedure accessible to all affected stakeholders. Requests that require urgent remedy and/or support shall be responded to and given support within the same day. All outstanding grievances/requests shall be recorded within two business days, reviewed, and assessed within ten business days, and concluded not later than 15 business days. Corrective actions shall be taken to resolve the grievance. GM Flow Chart is given in .

Table 10: Grievance Mechanism Flowchart

Stage of GM	Required Action
Grievance submission	Receiving the grievance by any above-mentioned communication channel. (Following to receive more sensitive grievances i.e., SEA/SH, child abuse or abuse, necessary action will be taken within 48 hours. For such cases at the workplaces, the complaint will be directed by the GM focal point (based in ILBANK headquarter) to relevant legal authorities/service providers such as Ministry of Family and Social Services and Prosecutors Office.)
Grievance registration	Grievance Form and Grievance Register Table are used during registration process. After grievance registration, feedback will be sent to the Complainant for the purpose of confirmation within two (2) days. Anonymous registration will be conducted if a Complainant requests that complaint of whom is handled anonymously.
Grievance assessment	Grievances are assessed within 10 working days with the clarification of the fact that relevant grievance is compliance with admissibility criteria. The Complainant will be informed appropriately in case of invalid grievances.
Responses to the grievances	According to the grievance type, consultation with stakeholders in question can be conducted on site. After grievance assessment, grievance will be responded appropriately via previously mentioned communication channels. Application to ILBANK or Court of First Instance is also available for Complainants if a resolution cannot be figured out for whose grievances.
Grievance closure	As long as alternative agreement is not conducted, grievance of Complainant is closed within fifteen (15) Business Days as of submission date and the Grievance Close Out Form is filled accordingly.

Stage of GM	Required Action
	In the case of grievances cannot be closed within fifteen (15) Business Days, it is ensured that well documented mitigatory circumstances related to which are reported. Regarding the anonymous grievances, outcome of GMGRM process and associated taken actions should be declared on Tillo Municipality website for the purpose of informing relevant Complainants.
In the case of unresolved grievances	ILBANK monitors GM process according to following outline: -Confirmation of grievance submission -Assessment of grievance by the Tillo Municipality and information to ILBANK accordingly -Communication of grievance response to Complainant by the Tillo Municipality which is monitored by ILBANK (The timeframe for response at this level is thirty (30) days.) -Application to Court of First Instance by Complainants in case of unresolved grievances
Reporting	The grievances will be analyzed quarterly by Tillo Municipality PIU considering the frequencies, types, and resolution methods of which. By doing this, for instance, complaints submitted by majority of Contractor/Subcontractor(s) and/or those originated from certain works can be determined in a better way. The outcomes are reported to the PIU management by CLOs
Right to Appeal	If the complaint cannot be resolved with the existing process, applicants can always apply to relevant legal institutions. Such institutions can be summarized as follow: <ul style="list-style-type: none"> • Civil Courts of First Instance • Administrative Courts • Commercial Courts of First Instance • Labor Courts, and Ombudsman (https://ebasvuru.ombudsman.gov.tr/)

Monitoring and Reporting

Tillo Municipality PIU and the Contractor CLO will record all incoming corporate grievance/comment databases.

Tillo Municipality PIU will assess the number and nature of grievances/comments (if any) quarterly and their effectiveness to address grievances/comments based on the number and percentage of closed grievances. The monitoring framework is described in Table 8.

Table 8. Grievance Mechanism Monitoring Framework

Parameter	Key Performance Indicator	Phase	Frequency	Responsible Party
Project GRM	• Number of grievances/comments received during per consultation	Construction	Quarterly	- To be assigned by Tillo Municipality PIU and Contractor

Parameter	Key Performance Indicator	Phase	Frequency	Responsible Party
	<ul style="list-style-type: none"> Types of the grievances/comments (community HS, employment, local procurement etc.) Timeframes for response to each grievance The number of open or closed grievances Number of invalid or in progress grievances 	Operation	Semi-annually in the first two years; Annually afterwards	- To be assigned by Tillo Municipality PIU and Contractor
Workers' GRM	<ul style="list-style-type: none"> Number of grievances/comments received by own workers Number of grievances/comments received by indirect workers Types of the grievances/comments regarding worker management and working conditions (e.g. Worker rights, OHS, etc.) Timeframes for response to each grievance The number of open or closed grievances Number of invalid or in progress grievances 	Construction	Monthly	- To be assigned by Tillo Municipality PIU and Contractor
		Operation	Semi-annually in the first two years; Annually afterwards	- To be assigned by Tillo Municipality PIU and Contractor
GM	Effectiveness of the GM	Construction	Quarterly	ILBANK

7. Annexes

Annex 1: Land Register Document of SPP Project Area


T.C.
TILLO BELEDİYESİ
Tapu Malik Hisse Listesi


Tarih: 08.11.2023


Malik Bilgi	Bilgi	İl İlçe	Mahalle Mevki	Çiftlik Sayısı	Nispetlik / Viteslik/Alan	Ada/Parcel	Hisse Payı - Hisse Alanı	İslem Adı	Yevmiye	İştirak No	Başlangıç Birim	Astra Payı	Durum	Tarikh İptalim
(SSN-47) MALİYE HAZİNESİ VKN: 0110312806	İlçe no:	SİBİRT / TILLO	MÜC/AHİT M / GÖDERESE	8 / 752	yenilenebilir enerji alanı/ 389,392,9	205 / 1	1.000 / 1.000 - Alan: 389192,9	İmar (TSM)	29.03.2022 - 202	0	Block- No: / Tip: / Kar: /	/	Aktif	-
													Kayıt Sayısı: 1	

A. Beylik
Mudurluğu
Emniyet Müdürlüğü

Annex 2: "EIA Not Required" decision of Siirt Provincial Directorate of Environment and Urbanization


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


T.C.
ŞİRT VALİLİĞİ
ÇEVRE ve ŞEHİRCİLİK İL MÜDÜRLÜĞÜ


Karar Tarihi : 16-03-2021
Karar No : 98557071.220-02.E-202117

ÇEVRESEL ETKİ DEĞERLENDİRME BELGESİ
25.11.2014 tarih ve 29186 sayılı Resmî Gazete'de yayımlanarak yürürlüğe giren Çevresel Etki Değerlendirmesi Yönetmeliği'nin Ek-II listesinde yer alan "GÜNEŞ ENERJİSİ SANTRALİ" projesi ile ilgili olarak inceleme-değerlendirme yapılmış ve Proje Tanıtım Dosyasında çevresel etkilere karşı alınması öngörülen önlemler yeterli görülmüştür. Ayrıca ÇED Raporu hazırlanmasına gerek bulunmadığı tespit edilmiş olup, söz konusu projeye ÇED Yönetmeliğinin 17. Maddesi gereğince Valiliğimizce "Çevresel Etki Değerlendirmesi Gerekli Değildir" karar verilmiştir.

Mehmet Raci BÜLBÜL
Vali a.
Çevre ve Şehircilik İl Müdürü



Proje Sahibi : TILLO BELEDİYE BAŞKANLIĞI
Proje Yeri : Siirt İl, Aydınlı İlçesi, MÜCAHİT MAH. 167 ADA, 18 NO.LU PARSEL
Kapasite : 1.983 MW'e Karşılık Güçlüde Güneş Enerji Santrali

Annex 3: SPP Project Area !/1000 scaled Zoning Plan



Annex 4: Environmental and Social Screening

Integrating Basic Principles to Strengthen Social and Environmental Sustainability

1. Determination of Basic Principles to Strengthen Project, Social and Environmental Sustainability
Description of how the project mainstreams a human rights-based approach
<p>There are no settlements within the project area. Therefore, no human rights concerns regarding the project emerged during the preparation phase. A loan application has been made for the project, and the implementation process will begin after the loan application is approved. With the start of the project, stakeholder participation processes and complaint procedures will also be initiated. These processes will be subject to a monitoring mechanism. The opinions obtained during this process will be examined and resolved at regular intervals.</p> <p>Tillo Municipality, the responsible organization leading the implementation of the project, is very willing to fulfill its obligations. One of the main reasons for the solar power plant project is to meet the energy needs of the local people from renewable energy sources. This situation also has the potential to contribute to reducing input costs in the agricultural sector in Tillo district, thus increasing the amount and quality of production. Therefore, there is no risk of local governments not being able to fulfill their responsibilities due to the decrease in energy costs and the potential contributions it will bring to various sectors.</p> <p>In the evaluations, it has been observed that there will be absolutely no negative impact on the human rights of the affected population or excluded groups. The solar power plant project is designed to meet the energy needs of the local people of Tillo. Therefore, there will be no unfair or discriminatory impact on disadvantaged groups living in the immediate vicinity. All groups living in the district will be benefited from this. The project will allow efficient use of municipal resources and will create positive effects for the entire district population. This approach promotes inclusivity by promoting equitable distribution of local government resources and services among the entire population. Additionally, no risk of conflict or violence between project-affected communities and authorities has been identified.</p>
Description of how the project can improve gender equality and women's empowerment
<p>Women's groups/leaders have not raised gender equality concerns regarding the project during the stakeholder engagement process, grievance processes, or public statements. The project is not anticipated to involve or lead to adverse impacts on gender equality and/or the situation of women and girls. The project is not expected to reproduce discriminations against women based on gender, particularly regarding participation in design and implementation or access to opportunities and benefits. There are no foreseen limitations on women's ability to use, develop, and protect natural resources, considering different roles and positions of women and men in accessing environmental goods and services. There are no activities that could lead to natural resources degradation or depletion in communities that depend on these resources for their livelihoods and well-being. The project is not expected to exacerbate risks of gender-based violence.</p>
Description of how the project mainstreams sustainability and resilience
<p>By harnessing solar energy, the project reduces dependence on non-renewable fossil fuels, contributing to a more sustainable energy mix and reducing greenhouse gas emissions. Solar power projects typically have a lower environmental impact compared to traditional energy sources. They help mitigate air and water pollution, reduce carbon emissions, and minimize the ecological footprint associated with energy generation. Locating the project in the urban periphery can involve local communities in the development and implementation process. This engagement empowers communities by providing them with opportunities for involvement, education, and potentially creating jobs, thereby enhancing the social dimension of sustainability. Solar power projects contribute to energy resilience by providing a stable and predictable source of energy. This can be especially important for urban areas, ensuring a more stable energy supply and helping to mitigate the impact of energy price volatility. Incorporating solar power into the urban energy mix contributes to the diversification of energy sources. This diversification enhances energy security, making the urban area less vulnerable to disruptions in the supply chain of any single energy source. In urban peripheries, solar power projects can be integrated into smart infrastructure systems. This involves using technology to optimize energy production, storage, and distribution, creating more efficient and resilient energy systems. By reducing reliance on fossil fuels, solar power projects contribute to mitigating climate change impacts. The urban periphery location may provide opportunities for integrating green spaces, improving air quality, and enhancing overall climate resilience. Solar power projects in the urban periphery serve as visible examples of sustainable practices. They can inspire other urban development projects to incorporate renewable energy solutions, promoting a broader shift toward sustainability in urban planning and development. In summary, a solar power project in the urban periphery can serve as a catalyst for sustainable and</p>

resilient urban development, addressing environmental, social, and economic dimensions of sustainability. The project aims to deliver electricity service to local residents of Tillo harnessing renewable solar energy and reduce the municipality's electricity costs. This financial benefit enhances the economic sustainability of the local government. The integration of solar power in the urban periphery encourages the development of green jobs related to the renewable energy sector. This contributes to economic sustainability by fostering employment opportunities and skill development within the community. The project presents educational opportunities for the community, emphasizing the importance of renewable energy and sustainable practices. This educational aspect contributes to the long-term sustainability of the region by raising awareness and promoting environmentally conscious behaviors.

Description of how the project strengthens accountability to stakeholders

The project strengthens accountability to stakeholders through transparent decision-making, active engagement, accessible information, responsive grievance mechanisms, regular reporting, clear communication, measurable performance indicators, and inclusive decision-making processes.

The project promotes transparency by involving stakeholders in the decision-making process. Through open communication and consultation, stakeholders are informed about project objectives, progress, and potential impacts. This transparency would enhance accountability by ensuring that decisions are made collectively and with the input of relevant stakeholders.

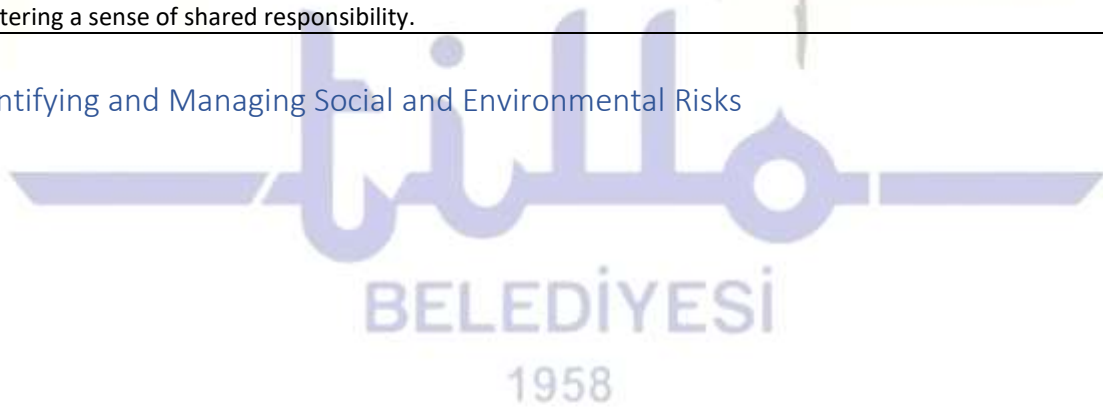
The project would facilitate regular stakeholder engagement activities such as meeting, workshops, etc. , providing a platform for dialogue between the implementing entities and stakeholders. These activities allow stakeholders to express concerns, provide feedback, and actively participate in shaping project outcomes. Regular engagement fosters a sense of ownership and accountability among stakeholders. In doing so, the project ensures that relevant information is easily accessible to stakeholders. This includes providing updates, reports, and documentation related to the project's environmental, social, and economic aspects. Accessible information empowers stakeholders to make informed decisions and holds project implementers accountable for the project's overall impact.

A robust grievance mechanism is established to address concerns raised by stakeholders. This mechanism allows stakeholders to report issues, express grievances, and seek resolution. The responsiveness of the grievance mechanism demonstrates a commitment to accountability by addressing concerns in a timely and effective manner. The project engages in regular reporting and audits, providing stakeholders with detailed insights into project activities and outcomes. Regular reporting ensures accountability by keeping stakeholders informed about the project's adherence to sustainability goals, financial management, and overall performance.

The project defines and conveys measurable performance indicators, allowing stakeholders to assess the project's success against predetermined benchmarks. This transparency in performance evaluation enhances accountability by providing stakeholders with objective criteria to gauge the project's impact.

Involving stakeholders in decision-making processes ensures inclusivity and accountability. By considering diverse perspectives, the project strengthens its commitment to meeting the needs and expectations of all stakeholders, fostering a sense of shared responsibility.

Identifying and Managing Social and Environmental Risks

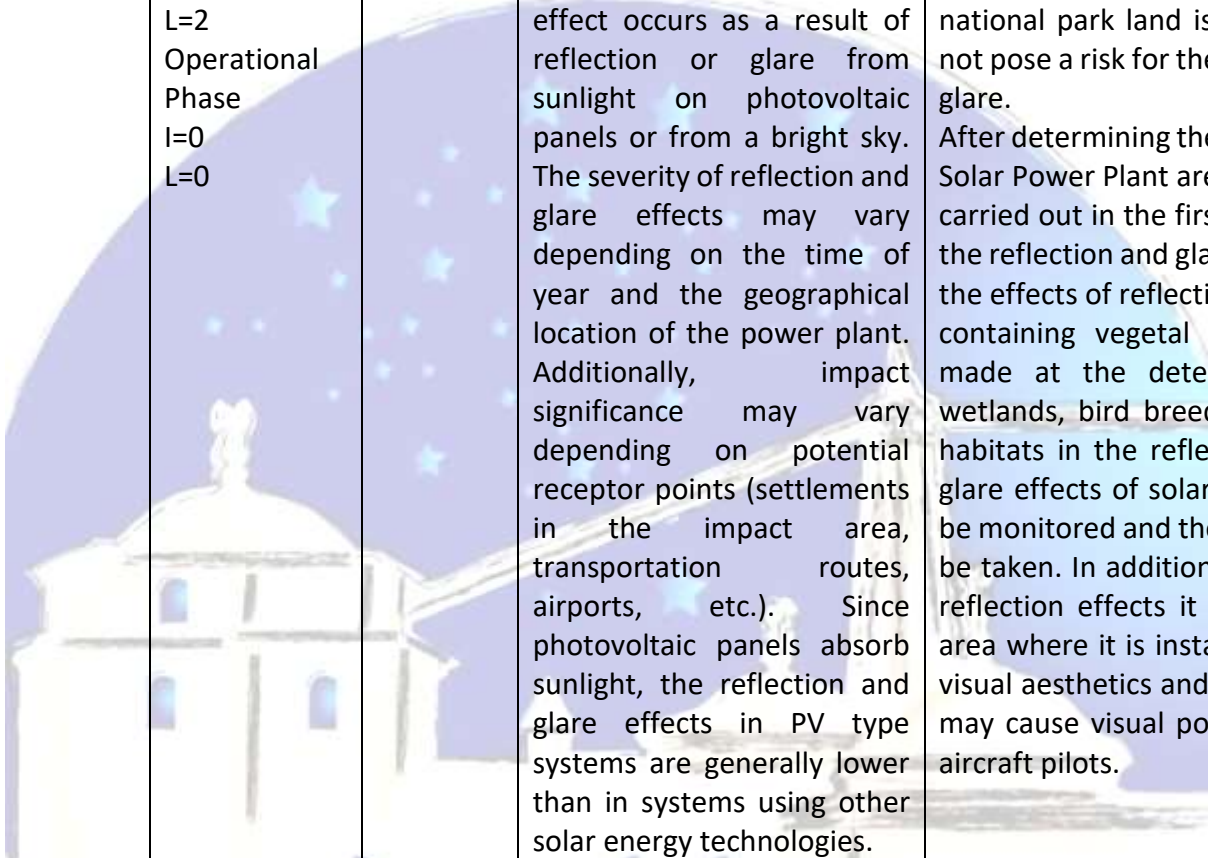


	2. The Potential Social and Environmental Risks?	3. The level of significance of the potential social and environmental risks?			6. Description of the assessment and management measures for each risk rated Moderate, Substantial or High
	Risk Description (broken down by event, cause, impact)	Impact and Likelihood (1-5)	Significance (Low, Moderate, Substantial, High)	Comments (optional)	Description of assessment and management measures for risks rated as Moderate, Substantial or High
Land and Soil	<p>Risk 1: Stripping of the Vegetative Topsoil Layer and Soil Compaction</p>	<p>Constructional Phase I = 3 L = 5 Operational Phase I = 0 L = 0</p>	Moderate		<p>Digging or stripping the vegetative topsoil layer during the project may cause the organic matter content of the soil to decrease. This can affect the fertility of the soil. In addition, leveling, excavation and filling operations, operation of construction equipment and traffic density in the project area may also cause soil compaction. A part of the parcel where the subproject is located is located within the borders of Botan Valley National Park. For this reason, soil loss in this area may pose a risk for the distribution areas of the plants in the National Park. However, the distance of the solar power plant, which will be built on 40 acres, to the national park border is 400 meters. Therefore it will not have a huge impact.</p>

	Risk 2: Leakage of Contaminants into the Soil and Waste and Chemical Storage	Constructional Phase I = 5 L = 1 Operational Phase I = 0 L = 0	Moderate		Being located 500 meters from Botan Valley National Park increases the impact that will occur in case of pollutant leakage during the construction phase. As stated in Article 8 of the "Waste Oil Management Regulation", the floor is sealed and epoxy paint, geo membrane, etc. are used to ensure impermeability against spills. It will be stored on a reinforced concrete floor with a thickness of at least 25 cm, covered with insulation materials, in tanks/containers that are red in color and marked with waste oil and have the necessary mechanism to clean solid or sludgy sediments that may collect at the bottom, and will be disposed of by companies with an environmental license.
Noise Pollution	Risk 3: Noise Resulting from Temporary Traffic Load Noise Caused by Construction Vehicles and Equipment Blasting, Stone, and Rock Removal Vibration Effects	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L = 0	Low	These impacts may affect the quality of life in the project area and the environmental management plan should include measures to control and reduce these noise and vibration impacts. Additionally, it is important to minimize these effects that harm human health and the environment.	Since the installed power capacity of the power plant is below 1 MW, the construction work is expected to be completed in a very short time. The potential impact of this risk was assessed as extremely low, given that it would not cause long-term noise pollution. In addition, there are no residential units around the sub-project, there are residential construction works only 1 km away. Housing construction is not expected to be completed when the solar power plant is installed. During the construction process, there will be no residents within approximately 1.5 km. Currently the distance to the nearest settlement is approximately 2 kilometers.

Air Pollution	Risk 4: Dust and Exhaust Emissions from Soil Excavation, Vehicle Traffic and Equipment	Constructional Phase I = 1 L = 4 Operational Phase I = 0 L = 0	Moderate	These impacts may affect the environmental sustainability of the project. Therefore, the environmental and social management plan should include measures to reduce and control the effects of air pollution. Clean energy projects are important to protect air quality and minimize negative impacts.	Since the power plant installation is expected to be completed quickly, temporary exhaust and dust emissions are likely to occur during the construction phase due to activities such as soil excavation, leveling works, vehicle traffic and equipment use. Various measures have been formulated to prevent air pollution even during this construction period. In addition, no activities that will cause air pollution are foreseen during the commissioning period after the completion of the construction phase of the power plant. However, since it is 500 meters away from the National Park Border, observations must be made and reported.
Traffic Congestion & Surrounding Residents	Risk 5: Temporary Blockage of Transportation Roads between Settlements Traffic Vehicles Cause Destruction on Roads and Buildings	Constructional Phase I = 1 L = 2 Operational Phase I = 0 L = 0	Low		The present roadway lacks an asphalt surface and is presently in suboptimal condition. Prior to the initiation of the construction process, it is imperative to enhance the condition of the road. This is necessitated, by the heightened traffic load anticipated during the construction phase and bended road, primarily attributable to the operation of heavy-tonnage vehicles.
Pollution in Groundwater	Risk 6: Chemical Spills and Leaks Improper Storage and Disposal of Materials Inadequate Stormwater Management	Constructional Phase I = 1 L = 1 Operational Phase I = 0 L = 0	Low		To mitigate the risk of groundwater pollution during the construction of solar power plants, it is essential to implement best practices in environmental management. This includes proper storage and handling of materials, implementation of erosion control measures, appropriate stormwater management, and adherence to regulatory guidelines for environmental protection. Environmental impact assessments and monitoring

	Inadequate Stormwater Management Inadequate Hazardous Material Handling				during the construction phase are also crucial to identify and address potential sources of pollution promptly. The fact that the number of personnel to work during the construction and operation phases is low and that domestic wastewater will be removed with the help of sewage trucks after being temporarily stored in leak-proof septic tanks will not have a negative impact on the quality of surface and underground water resources near the SPP area. Thanks to this application, the risk of discharge of wastewater to surface or groundwater and pollution will be kept to a minimum. This measure is important in terms of ensuring environmental sustainability and contributing to the protection of the natural values of the National Park and water resources such as Botan Stream.
Impacts on plants and animals, ecosystems, protected areas and landscapes	Risk 7: Fragmentation of forest habitats, Loss of nesting grounds and/or high biodiversity/sensitive habitats of rare, threatened, or endangered species, Placing obstacles to wildlife movement	Construction Phase I = 1 L=1 Operational Phase I=0 L=0	Low		Annual plants, which are not rare and found in the dominant vegetation of Tillo, are occasionally seen in the sub-project area. It is quite poor in terms of vegetation.
Reflection and	Risk 8: Reflection and Glare Effect	Construction Phase I = 1	Low	Reflection and glare effect is an effect created by solar power plants (SPP). This	Due to the topography of the area, the aspect direction of the placement of solar panels is west, and the aspect direction of a large part of the

Glare Effect		L=2 Operational Phase I=0 L=0	 <p>effect occurs as a result of reflection or glare from sunlight on photovoltaic panels or from a bright sky. The severity of reflection and glare effects may vary depending on the time of year and the geographical location of the power plant. Additionally, impact significance may vary depending on potential receptor points (settlements in the impact area, transportation routes, airports, etc.). Since photovoltaic panels absorb sunlight, the reflection and glare effects in PV type systems are generally lower than in systems using other solar energy technologies.</p>	<p>national park land is east. Solar power plant does not pose a risk for the National Park area in terms of glare.</p> <p>After determining the area with reflection risk in the Solar Power Plant area, visual monitoring should be carried out in the first year of operation to observe the reflection and glare effects. In order to minimize the effects of reflection and glare, landscape design containing vegetal shading elements should be made at the determined points. If there are wetlands, bird breeding areas or similar sensitive habitats in the reflection area, the reflection and glare effects of solar panels on these areas should be monitored and the necessary precautions should be taken. In addition, there is a possibility that the reflection effects it may create in the immediate area where it is installed may negatively affect the visual aesthetics and aircraft users in that region; It may cause visual pollution or image distortion for aircraft pilots.</p>
--------------	--	--	---	---



BELEDİYESİ

1958

4.The overall project risk categorization?

Low Risk	<input type="checkbox"/>	Category C
Moderate Risk	<input checked="" type="checkbox"/>	Category Low B
Substantial Risk	<input type="checkbox"/>	Category High B
High Risk	<input type="checkbox"/>	Category A

5. The requirements of the SES based on the identified risks and risk categorization

Only required for Moderate, Substantial and High-Risk projects

Is assessment required? (check if “yes”)	<input type="checkbox"/>		Status? (completed, planned)
if yes, indicate overall type and status	<input type="checkbox"/>	Targeted assessment(s)	Since the project is Category Low B, these assessments are not required.
	<input type="checkbox"/>	ESIA (Environmental and Social Impact Assessment)	
	<input type="checkbox"/>	SESA (Strategic Environmental and Social Assessment)	
Are management plans required? (check if “yes”)	<input type="checkbox"/>		
If yes, indicate overall type	<input type="checkbox"/>	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others)	Since the project is moderate risk, these management plans are not required. However, in the cope of SCP II AF, Simplified ESMP has been prepared for this project with low risk.
	<input checked="" type="checkbox"/>	ESMP (Environmental and Social Management Plan which may include range of targeted plans)	
	<input type="checkbox"/>	ESMF (Environmental and Social Management Framework)	
Based on identified <u>risks</u> , which Principles/Project-level Standards triggered?	Comments (not required)		
Overarching Principle: Leave No One Behind			
Human Rights	<input checked="" type="checkbox"/>		
Gender Equality and Women’s Empowerment	<input checked="" type="checkbox"/>		
Accountability	<input checked="" type="checkbox"/>		
The Environmental and Social Standards of World Bank (ESS)			

1. Biodiversity Conservation and Sustainable Management of Living Natural Resources	<input checked="" type="checkbox"/>	
2. Assessment and Management of Environmental and Social Risks and Impacts	<input checked="" type="checkbox"/>	
3. Community Health, Safety and Security	<input checked="" type="checkbox"/>	
4. Cultural Heritage	<input type="checkbox"/>	
5. Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	<input type="checkbox"/>	
6. Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	<input type="checkbox"/>	
7. Labor and Working Conditions	<input checked="" type="checkbox"/>	
8. Resource Efficiency and Pollution Prevention and Management	<input checked="" type="checkbox"/>	
9. Financial Intermediaries	<input checked="" type="checkbox"/>	
10. Stakeholder Engagement and Information Disclosure	<input checked="" type="checkbox"/>	

According to the checklist above it is likely to have minimal environmental impacts, so this subproject could be classified as Category C. Besides, in the Annexes, environmental and social screening checklists describe the risk category of the subproject based on World Bank Safeguard Policies such as OP/ 4.01 Environmental Assessment, OP/ 4.04 Natural Habitats, OP/ 4.11 Physical Cultural Resources, OP/ 4.12 Involuntary Resettlement .

Environmental and Social Screening Checklist

Sub-project Information	
Sub-project title	Tillo SPP Project
Sub-project beneficiaries	Tillo Municipality
Proposed date of start of work	22.01.2024
Brief description of sub-project	It is planned to be used to meet the consumption of electricity subscriptions of Tillo

	Municipality with the Solar Power Plant sub-project within the scope of the Sustainable Cities Project within the borders of Tillo district of Siirt Province.
Site area, location	Tillo District, Mücahit Neighborhood, Block/Lot: 205/ 1
Sub-project cost	EU 2.220.880,00
Status of national EIA process of sub-project	EIA is not required (Annex 2)

Environmental and social impacts related to the proposed sub-project – the existing situation			
	Yes	No	Details
Will the sub-project adversely affect legally protected areas or internationally recognized areas of high biodiversity value ² ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The lot boundaries where the SPP subproject is located intersect with the National Park boundaries. The lot covers a very large area, and the SPP project area is located in the northwest corner of the lot and is 500 meters from the national park border. In addition, since the aspect of the area is west and the altitude of the national park is higher than the SPP project, it does not have any negative impact on tourism and sports activities within the national park.
Will the sub-project be located in or near the environmentally sensitive or protected area (in accordance with national legislation)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The lot boundaries where the SPP subproject is located intersect with the National Park boundaries. The lot covers a very large area, and the SPP project area is located in the northwest corner of the lot and is 500 meters from the national park border. In addition, since the aspect of the area is west and the altitude of the national park is higher than the SPP project, it does not have any negative impact on tourism and sports activities within the national park.
Will the sub-project adversely affect critical habitats such as forest ecosystems, wetlands, marshlands, and aquatic ecosystems or natural habitats?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no habitat with high sensitivity around the subproject area.
Will the sub-project adversely affect endangered plant and animal species?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no endangered flora or fauna species in or near the area.

² Internationally recognized areas of high biodiversity value include World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction Sites, among others.

Will the sub-project affect archaeological sites, historic monuments and settlements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no negative impact on any historical assets located near the project.
Is there woods or forest around the sub-project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no trees in the area.
Will the sub-project adversely affect the woods and forest?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Since there are no trees in the area, it has no impact.
Is there any combustible and flammable subsidence material around the sub-project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
Is there underground facilities such as gas pipeline, electrical facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
Are there any overhead lines such as high-voltage lines in or near the sub-project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
Will people permanently or temporarily lose access to facilities, services, or natural resources because of the sub-project activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
Is this sub-project intervention requiring private land acquisitions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The property is owned by the municipality.
If the land parcel has to be acquired, is the actual plot size and ownership status known?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
If new land is required and the site is privately owned, can this land be purchased through Willing Buyer–Willing Seller agreement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
Will the sub-project require the acquisition of public lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
If public lands will be acquired, are there any formal/informal users utilizing these lands for income generation purposes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
Will there be loss of/damage to productive trees, fruit plants or crops that generate livelihood income for the households?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no productive trees, fruit plants or crops in the land where the SPP subproject will be built
Is there any soil contamination observed at the sub-project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Currently, no soil contamination observed, but monitoring measure will be applied to control over.

Impacts of sub-project (in case of rooftop solar sub-project only):		
Will the sub-project affect the daily operation of the building and people?		
Is the building protected under the law for the protection of cultural heritage?		
Is the building of special significance to any vulnerable group (i.e. disabled people, minorities, youth, etc.)?		

Environmental and social/impacts related to sub-project construction/installation			
	Yes	No	Details
Will the sub-project involve the use of forest trees or other natural resources as building materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The sub-project does not involve the use of forest trees or other natural resources as building materials.
Will the sub-project emit greenhouse gases (CO ₂ , NO _x , O ₃) or ozone-depleting substances (CFC, methyl bromide, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The sub-project will not emit greenhouse gases
Will the sub-project use, produce, or discharge hazardous and toxic materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

(e.g., hospital waste, industrial waste, or other?)			
Will the sub-project produce or cause occupational hazards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project cause dust and noise pollution?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The sub-project would cause dust and noise only in construction phase. Measures related to this issue has been developed in this ESMP. In the operational phase there will be no dust and noise.
Will the sub-project cause water pollution?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project cause soil pollution?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project result in temporary disruption to the livelihoods of any persons/households?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project cause community safety-related hazards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project include significant OHS concerns?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Will the sub-project cause additional traffic load?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The sub-project would cause traffic load in construction phase. In operational phase there will be no traffic load originated from the sub-project.
Will the sub-project cause any adverse impact on the closest sensitive receptors (if there is any)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is there a population that can be negatively affected by the sub-project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other environmental or social impacts (describe the nature and severity of its impact)	<u>Preparatory phase:</u> <u>Construction phase:</u> <u>Operation phase:</u>		

According to OP4.01, OP 4.10 and OP 4.12 of World Bank, the following social safeguard documents shall be prepared for the subproject:

1. According to the Environmental screening checklist above the subproject is in Category low B in terms of risk. and recommendations of World Banks that is Category low B project does not need environmental management plan, and does not need to take environmental protection measures to mitigate the impact, however, in any situation, a simplified ESMP has been prepared. In this regard, it reveals that the World Bank has not triggered the relevant safeguards policies, except for this simplified ESMP.
2. According to the social screening checklist above, there is no reason to trigger World Bank Social Safeguard Documents such as Resettlement Action Plan, Reemployment Plan, Job Transfer Training.