REPORT

Project ANKA - G4-Bor-3 Solar Power Plant, Niğde

Environmental and Social Impact Assessment - Non-Technical Summary

Submitted to:

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Table of Contents

TABLES

FIGURES

Acronyms and Abbreviations

Abbreviation	Definition
AC	Alternating Current
AFAD	Disaster and Emergency Management Authority
AoI	Area of Influence
APL	Allocation in Return for Domestic Production
AZE	Alliance for Zero Extinction
CCTV	Closed-circuit television
CDP	Community Development Plan
CH	Critical Habitat
CHA	Critical Habitat Assessment
CIA	Cumulative Impact Assessment
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Client	Kalyon YEKA GES 3 ve 4 Güneş Enerjisi Yatırımları A.Ş., subsidiary of Kalyon Enerji
CLO	Community Liasion Officer
CLS	Community Level Survey
CMC	Continuous Monitoring Center
CO	Carbon Monoxide
CSP	Concentrating solar-thermal power
CVD	Chemical Vapour Deposition
dBA	Decibels A
DC	Direct Current
DD	Data Deficient
EAAA	Ecologically Appropriate Area of Analysis
EBRD	European Bank for Reconstruction and Developmen
EHSS	Environment, Health and Safety, Social
E&S	Environmental and Social
EIA	Environmental Impact Assessment

Abbreviation	Definition
EMRA	Energy Market Regulatory Authority
EN	Endangered
EOO	Extent of Occurrence
EP	Equator Principles
EPC	Engineering, procurement, and construction
EPA	Environmental Protection Agency
EPFI	Equator Principles Financial Institution
EPRP	Emergency Preparedness and Response Plan
ESGA	E&S Gap Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
EU	European Union
EUNIS	European Nature Information System
FGD	Focus Group Discussion
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GN	Guidance Note
ha	hectare
HC	Hydrocarbon
HH	Household Survey
HR	Human Resources
hPA	Hectopascal
HR	Human Resources
HSE	Health and Safety and Environment
IBA	Important Bird Area
ICOMOS	The International Council on Monuments and Sites
ICP	Informed Consultation and Participation
IFC	International Finance Corporation

Abbreviation	Definition
IFI	International Financial Institutions
IPA	Important Plant Area
IUCN	International Union for Conservation of Nature
Kalyon Enerji	Kalyon Enerji Yatırımları A.Ş. (the Project Owner)
KBA	Key Biodiversity Area
KM	Kilometer
KPI	Key Performance Indicator
L	Liter
LC	Least Concern
LNG	Liquefied Natural Gas
LRP	Livelihood Restoration Plan
M	Meter
m^3	Cubic meter
MEDAŞ	MERAM Electricity Distribution Inc. Co.
mm	Milimeter
MoAF	Ministry of Agriculture and Forestry
MoC	Management of Change
MoEUCC	Ministry of Environment, Urbanisation and Climate Change
MWe	Megawatt Electric
MWp	Megawatt Power
N/A	Not Applicable
N-CP	Non-Compliance
NGO	Non-governmental Organization
NO_x	Nitrogen Oxide
NT	Near Threatened
NTS	Non-Technical Summary
OBS	Observation
OECD	The Organization for Economic Cooperation and Development
OHS	Occupational Health and Safety

Abbreviation	Definition
OHTL	Overhead Transmission Line
PA/CA	Preventative Actions/Corrective Actions
PAP	Project Affected Person
PCB	Polychlorinated Biphenyls
PDoEUCC	Provincial Directorate of Environment, Urbanization and Climate Change
PGA	Peak Ground Acceleration
PM	Particulate Matter
PPM	Public Participation Meeting
PS	Performance Standard
PV	Photovoltaic
RAP	Resettlement Action Plan
RCIA	Rapid Cumulative Impact Assessment
R&D	Research and Development
RIV	Residual Impact Value
RLE	Red List of Ecosystems
RMU	Disconnector -Breaker Unit
RSA	Regional Study Area
RWIHC	Regulation of Water Intended for Human Consumption
SCADA	Supervisory Control and Data Acquisition
Sec	second
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
SF	Safety Factor
SHW	State Hydraulic Works
SIA	Social Impact Assessment
SO_2	Sulphur dioxide
SP	Sampling Point
SPA	Special Provincial Administration
SPP	Solar Power Plant

Abbreviation	Definition
sqm	Square Meter
SYDV	Social Assistance and Solidarity Foundation
TCFD	Task Force on Climate-related Financial Disclosures
TEDAŞ	Turkey Electricity Distribution Inc.
TEİAŞ	Turkish Electricity Transmission Corporation
TGFZ	Tuz Gölü Fault Zone
TOE	Tonne of oil equivalent
TRY	Turkish New Lira
TS	Turkish Standard
TURKSTAT	Turkish Statistical Institute
TÜBİVES	Turkish Plants Data Service
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGP	United Nations Guiding Principles on Business and Human Rights
VEC	Valued Environmental and Social Component
VU	Vulnerable
WB	World Bank
WB ESF	World Bank Environmental and Social Framework
WHO	World Health Organisation
WSP Türkiye	Golder Associates Türkiye Ltd.
WWF	World Wildlife Fund
WWTP	Wastewater Treatment Plant
YADES	Ministry of Family and Social Services Elderly Support Program
YEKA	Renewable Energy Source Area

Record of Issue

Company	Client Contact	Version	Date Issued	Method of Delivery
KALYON YEKA GES 3 ve 4 GÜNEŞ ENERJİSİ YATIRIMLARI A.Ş.	Defne Arısoy	Draft_R0	29.09.2023	E-mail
KALYON YEKA GES 3 ve 4 GÜNEŞ ENERJİSİ YATIRIMLARI A.Ş.	Defne Arısoy	Draft_R1	03.10.2023	E-mail
KALYON YEKA GES 3 ve 4 GÜNEŞ ENERJİSİ YATIRIMLARI A.Ş.	Defne Arısoy	Draft_R2	17.10.2023	E-mail

1.0 INTRODUCTION

1.1 Project Background

G4 Bor-3 Solar Power Plant Project (“the Project”) having a capacity of 130 MWp /100 MWe, is planned by Kalyon Enerji Yatırımları A.Ş. (“Kalyon Enerji”) and Kalyon YEKA GES 3 ve 4 Güneş Enerjisi Yatırımları A.Ş. (”Client”), a subsidiary of Kalyon Enerji. The Project will be located in Niğde Province, in the Bor District, Seslikaya and Badak neighbourhoods in Türkiye.

An Environmental Impact Assessment (EIA) report has been prepared for the Project per the requirements of national EIA Regulation and the “EIA Positive” decision has been acquired on October 27,2022 (Decision no: 6891). EIA Positive decision has been taken over by Kalyon YEKA GES 3 ve 4 Güneş Enerjisi Yatırımları A.Ş from Kalyon Enerji Yatırımları A.Ş. referring to letter no: E-71595204-220.99-6343245 and dated May 2023 in which subsidiary shall have the full responsibility to comply with EIA commitments.

A Gap Analysis Study, previously prepared by WSP Danışmanlık ve Mühendislik Ltd. Şti. (“WSP Türkiye”) in April 2023, has identified gaps of the existing national EIA Report and available documentation obtained from Kalyon Enerji and suggest actions to close these gaps to reach a full bankable ESIA in line with the International Conventions, IFIs Performance Standards (Equator Principles IV (EP), International Finance Corporation (IFC) Performance Standards (PS), Organisation for Economic Co-operation and Development (OECD)’s Common Approaches and Guidelines, and the best practices in the industry along with the national legislation).

Kalyon Enerji retained WSP Türkiye to prepare the Environmental and Social Impact Assessment (“ESIA”) for the Project in compliance with the national and international requirements detailed above.

The main components of the plant consist of solar panels, a panel carrier system, an inverter station (inverter, transformer, ring main unit and the substation. Associated infrastructure and utilities can be listed as the administrative building, Supervisory Control and Data Acquisition (SCADA) System and the overhead transmission line (OHTL). Once the Solar Power Plant is put into operation, it is planned to produce 266010 MWh of electricity annually, and the electricity produced will be connected to the Bor Substation via ~13 km 154 kV OHTL. Details of the Project components are provided in Chapter 3 of this report.

The Project pre-construction activities, namely, mobilization of temporary site facilities, site preparation, grading and levelling, material delivery and storage and certain early trenching activities for cable laying has started in March 2023. The construction period of the Project is estimated to be 8 months and the total operation period will be 30 years.

The Project will be established on a pastureland / treasury land of 201.6 hectares. The Project area has been classified as an "Industrial Zone" in the 1/100.000 Scale Environmental Plan. The area lays within the borders of the "Niğde-Bor Energy Specialized Industrial Zone". The Client retained WSP Türkiye to prepare the Environmental and Social Impact Assessment (“ESIA”) for the Project in compliance with the national and international requirements detailed above and in Chapter 2.

The financing process is currently ongoing.

1.2 Project Owner

Kalyon Enerji is a renewable energy investment company established in 2016. As of August 2022, 50%facilities. Enerji belongs to International Energy Holding, which is affiliated with International Holding Company, one of the largest investment companies of the United Arab Emirates and the Gulf Region, and the remaining 50% belongs to Kalyon İnşaat, which is one of the leading construction companies of Türkiye and has signed many essential construction works.

Kalyon Enerji’s top priority is to make energy accessible to everyone, including disadvantaged groups, by using clean and renewable energy sources. In this respect, Kalyon Enerji focuses on solar and wind power plant investments considering Turkey's and the world's ever-increasing energy needs with a sustainability vision and

playing a leading role in the fight against climate change. Making Kalyon Enerji's impact investments in clean energy considers both the country's goals and the world's needs.

1.3 Project Parties

Project parties that will be involved in the SPP investment are illustrated below.

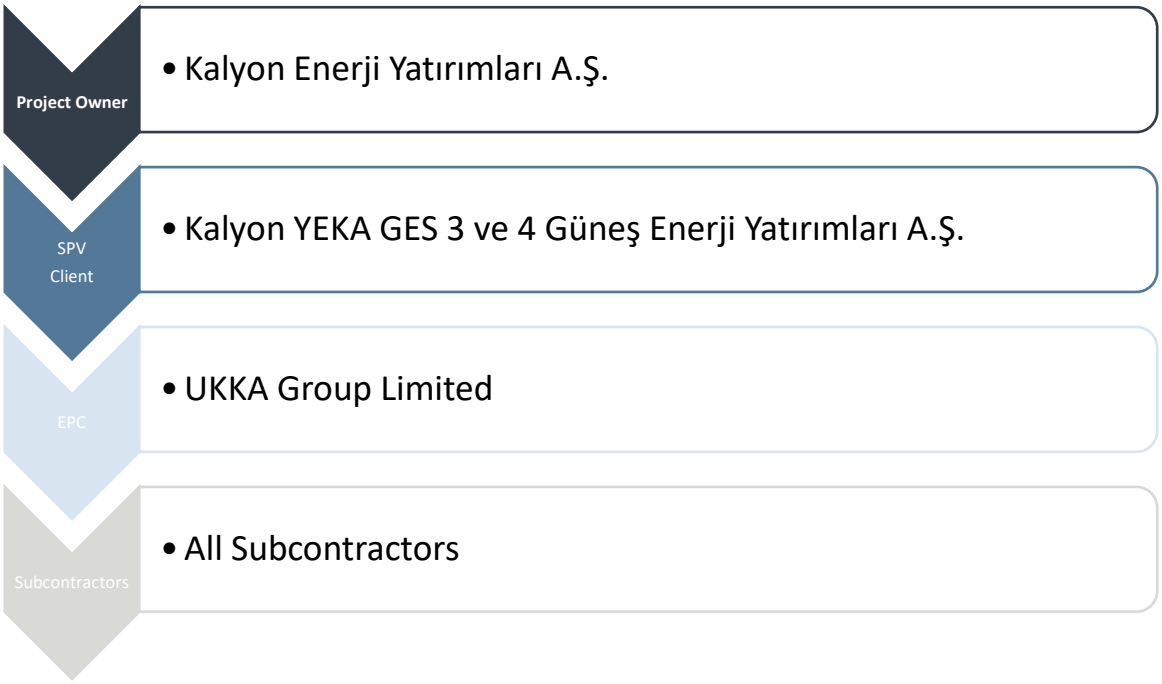

Figure 1: Illustration of Project Parties

Project Owner: Kalyon Enerji Yatırımları A.Ş.

SPV and the Client: Kalyon YEKA GES 3 ve 4 Güneş Enerji Yatırımları A.Ş., special purpose vehicle established for construction and operation of the facility, subsidiary of Kalyon Enerji Yatırımları A.Ş.

EPC: UKKA Group Limited, responsible for engineering, procurement, and construction during the construction phase of the facility.

TEİAŞ: Turkish Electricity Transmission Corporation, a public government company, that operates and owns the transmission of electricity, is responsible for the planning of a transmission investment for the new transmission facilities to be established, to establish new transmission facilities. The right of ownership and operation boundary of TEİAŞ starts at the connection point to the transmission system. In case the connection of the generation or consumption facility to the transmission system is carried out through the switchyard of another generation or consumption facility, the right of use, operation, and maintenance of the connected feeder belongs to TEİAŞ. However, TEİAŞ may request the operation and maintenance of such equipment to be performed by the relevant generation or consumption facility at a specified cost.

Global Enco Energy: contractor responsible for the construction of energy transmission lines for all YEKA Projects under an ordinary partnership that will be established with the participation of YEKA Project Owners including Kalyon Enerji.

1.4 Project Rationale

Solar power is a clean and renewable energy source that utilizes sunlight to generate electricity. By establishing a solar power plant, dependence on fossil fuels can be reduced and climate change can be mitigated by reducing greenhouse gas emissions.

Solar power provides an opportunity for countries to achieve energy independence. By generating electricity locally from the sun, reliance on imported fossil fuels can be reduced and energy costs can be stabilized. Once the initial investment is made to set up the solar power plant, the operational costs are relatively low. Solar power has a long lifespan, and the fuel source (sunlight) is infinite and free, making it a financially viable and sustainable option.

Solar power plants offer scalability and modularity. Depending on the available space and energy demand, the plant's capacity can be expanded by adding more solar panels. This flexibility allows for the customization and optimization of the project to meet specific energy needs.

Solar power technology has been advancing rapidly, resulting in improved efficiency and reduced costs. Continued investments in solar power plants can help drive further technological innovations, making solar energy even more accessible and cost-effective.

In this respect, the Project aims to:

- create a balanced portfolio in electricity generation by increasing the share of renewable energy resources,
- increase the resource diversity in total electricity generation,
- reduce the cost of electricity purchased from renewable energy generation facilities.

With the realization of the Project:

- Domestic production in renewable energy technologies will be developed,
- The capacity of qualified human resources will increase,
- Renewable energy soruces will increase across the country.

1.5 The Goal of this Document

An Environmental and Social Impact Assessment study has been conducted by WSP Türkiye regarding the realization of the Niğde SPP Project. This document, non-technical summary (NTS) of the ESIA, aims to summarize the ESIA findings, which was conducted according to the national and international regulations and standards of international Lenders, and mitigation measures for the management of the Project's environmental and social issues which was proposed by Kalyon Enerji; and aims to provide clear and valid information for the stakeholders by using a non-technical language.

1.6 Standards to be Applied in the Project

Kalyon Enerji commits to adhere to the provisions of Turkish laws and requirements applicable to the Project during the life-time of the Project. These requirements include (but are not limited to) the Environment Law, Occupational Health and Safety Law, Labour Law and other applicable Turkish legislation.

The Project will also comply with the International Finance Corporation Performance Standards (IFC PSs), Equator Principles and the Turkish laws and requirements.

1.7 Project Categorisation

The requirements from IFC and Equator Principles 4 regarding the Environmental and Social Assessment process and outcomes differ depending on the category of the project. Projects are categorized as follows:

Table 1: Project Categorisation

Applicable Standard	Category Explanation
IFC PSs (2012)	Category A: Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented.
EPIV (2020)	Category A: Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible, or unprecedented.

Project is proposed as “Category A” in reference to Equator Principles 4 and IFC for project categorization.

2.0 PROJECT DESCRIPTION

2.1 Project Overview and the Location

G4 Bor-3 Solar Power Plant Project (“the Project”) having a capacity of 130 MWp /100 MWe, is planned by Kalyon Enerji Yatırımları A.Ş. (“Kalyon Enerji”) and this Project will be developed and constructed by Kalyon YEKA GES 3 ve 4 Güneş Enerjisi Yatırımları A.Ş (“Client”), a subsidiary of Kalyon Enerji. The Project will be located in Niğde Province, in the Bor District, Seslikaya and Badak neighbourhoods in Türkiye. Once the Solar Power Plant is put into operation, it is planned to produce 266010 MWh of electricity annually, and the electricity produced will be connected to the Bor Substation via ~13 km 154 kV OHTL.

The Project pre-construction activities, namely, mobilization of temporary site facilities, site preparation, grading and levelling, material delivery and storage and certain early trenching activities for cable laying has started in March 2023.

Figure 2 represents the actual site conditions and Project location and layout are presented in Figure 3 and Figure 4, respectively. Nearest settlements are shown in Figure 5.

Figure 2: Photos of General Site Activities (Dated March 21, 2023, taken by WSP Golder)

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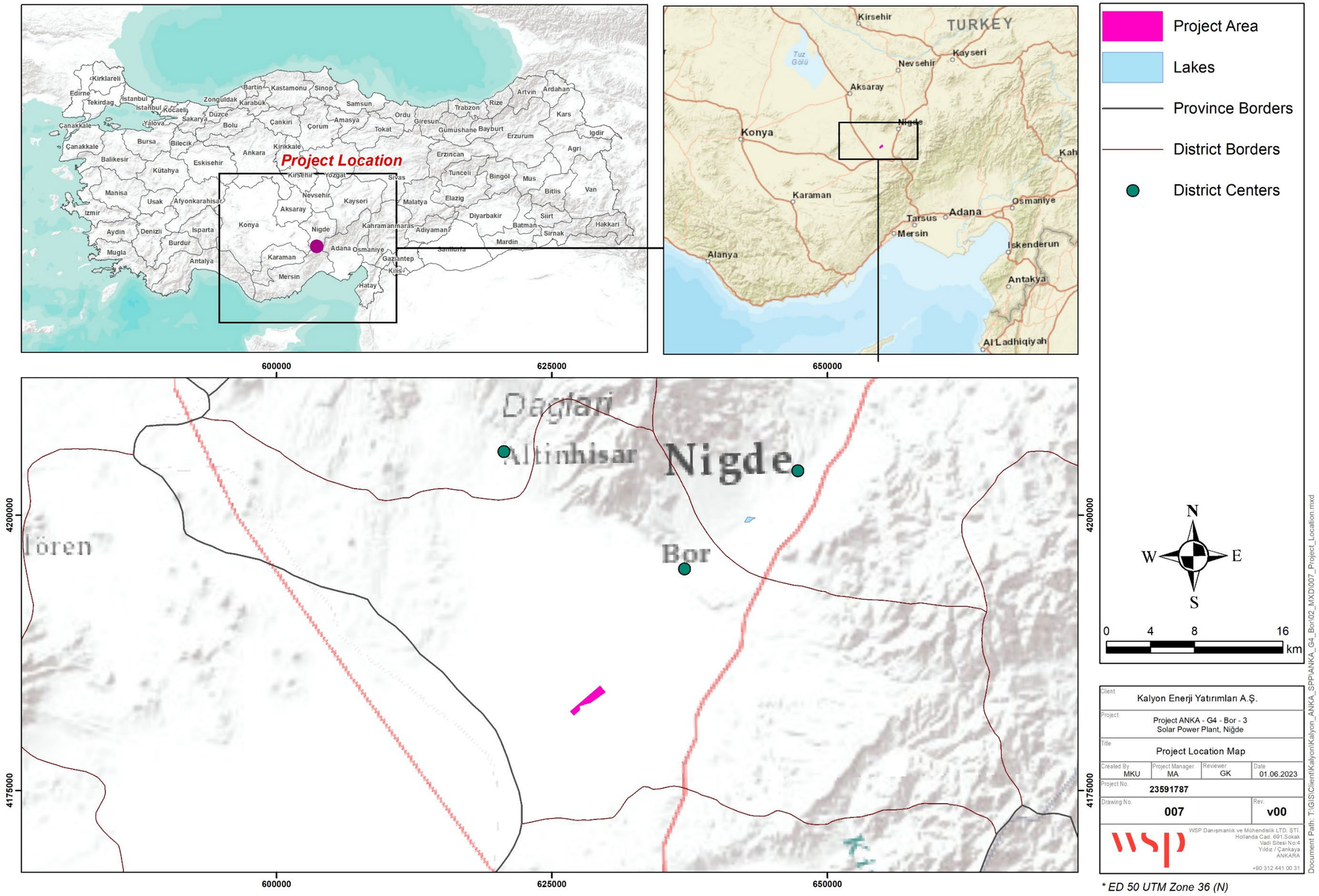


Figure 3: Project Location Map

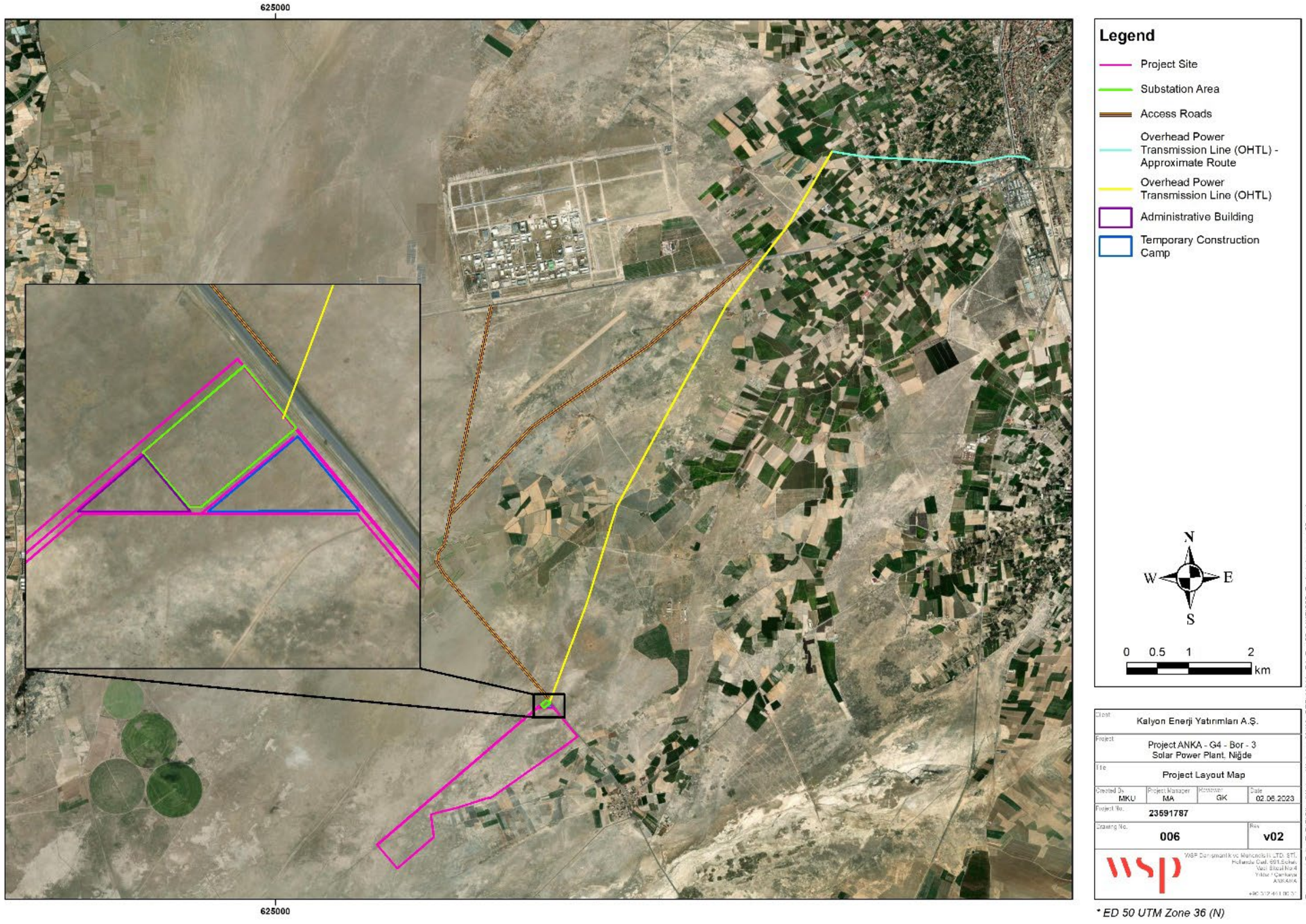
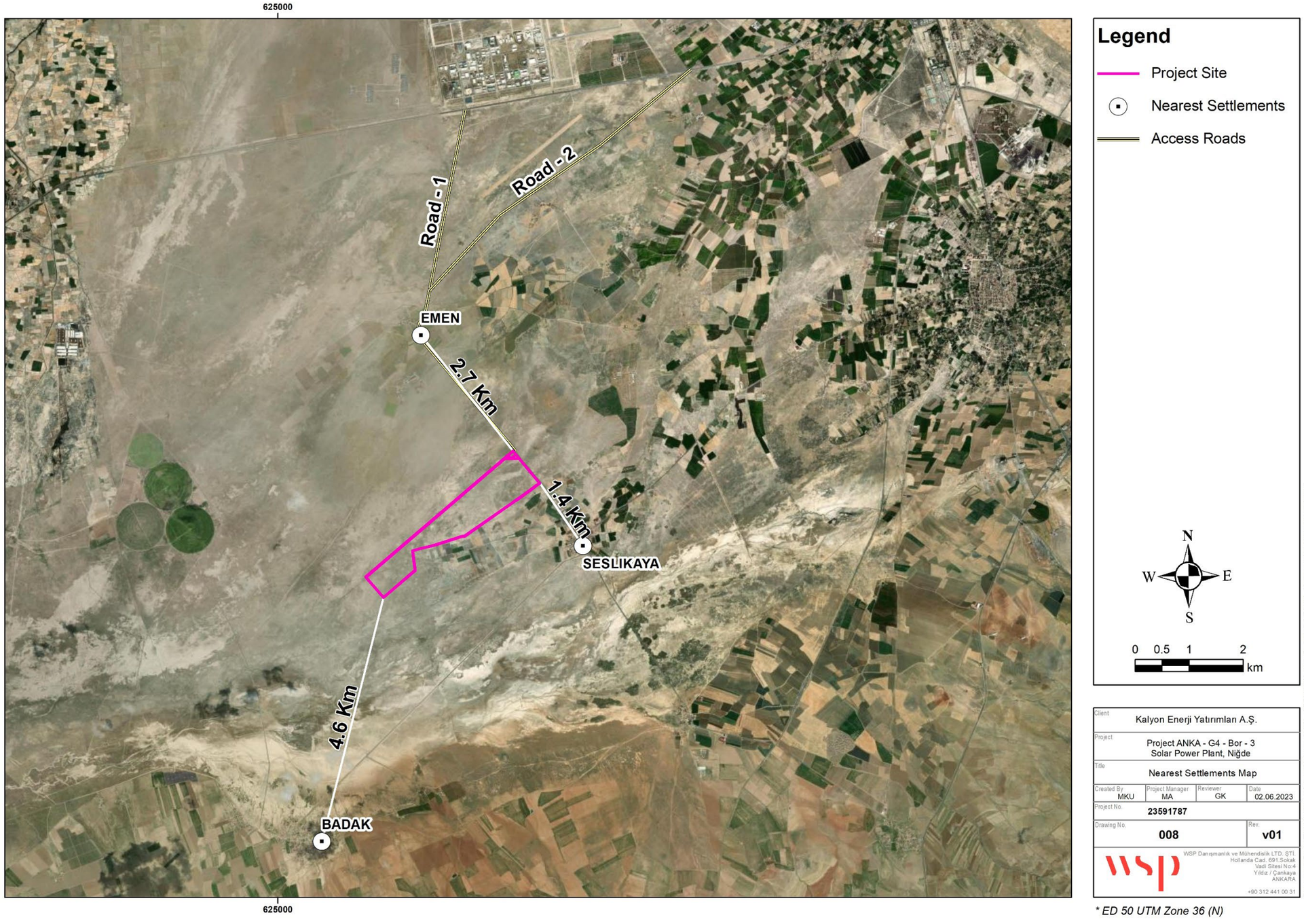


Figure 4: General Project Layout



** ED 50 UTM Zone 36 (N)*

Figure 5: Nearest Settlements

2.2 Project Components

The main components of the plant consist of solar panels, tracker (solar tracking system) and PV module carrier system, DC Combiner Box, inverter stations and substation. Associated infrastructure and utilities can be listed as the Transformer Center Building (Supervisory Control and Data Acquisition (SCADA)), administration building, dining hall, security building, personnel workshop.

Main components, their arrangements and working principles are presented in Figure 6.

Cables

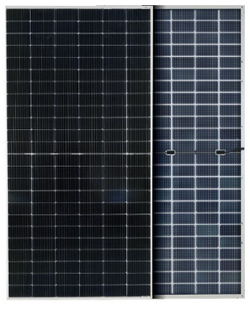
Cables

Cables

PV Module & Tracker (Panel Carrier) System

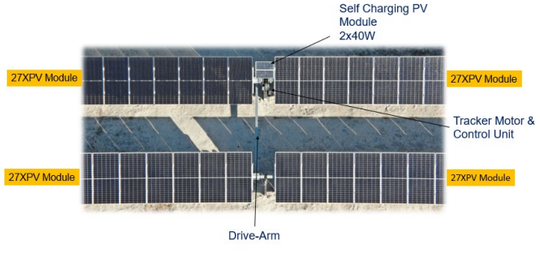
- PV Cells converts the sunlight into electricity.
- Parallel and serial connections PV Cells creates the PV Modules.
- PV Modules are mounted on tracker system. One Axis Tracker System supports PV Modules produce more energy with following up the sun during the daytime from East to West direction.

MONOPERC PV MODULE kalyon PV



Panel Power: 400 W
Panel QTY: 325080 PCS

SINGLE AXIS TRACKER SYSTEM PVH



DC Combiner Box

- Electricity produced by PV Modules are collecting trough DC Combiner Boxes.
- DC Combiner Boxes able to provide the information of the PV Module series Current/Voltage values for the monitoring purpose to check status of the PV Module Strings.

Inverter Station

- Inverter Station combines the electricity from the DC Combiner Boxes.
- Inverter convert the electricity from DC form to the AC form which is the national grid transmission form.
- Inverter injects the electricity to transformer with 690V voltage level, Transformer placed in the Inverter Station step-up the voltage level to the 33.6kV.
- Through the RMU (Ring Main Unit) switchgears the AC electricity combining together from couple of Inverter Stations and sending to the Substation.

4.73 MW CENTRALIZED INVERTER STATION

154/33.6 kV Substation and Switchyard

- Combined AC electricity from the Solar feeders is collecting with MV Switchgears in the Substations.
- Main Transformers in the substation steps-up the AC electricity voltage level required in the system connection agreement. (154kV)

154 kV Overhead Transmission Line

- HV electricity injecting to the national grid trough the overhead transmission line.

Figure 6: Project Illustration

2.3 Associated Facilities

According to the OECD and IFC Performance Standards, Associated Facilities are defined as:

- OECD - “Associated facilities are those facilities that are not a component of the project but that would not be constructed or expanded if the project did not exist and on whose existence the viability of the project depends; such facilities may be funded, owned, managed, constructed and operated by the buyer and/or project sponsor or separately from the project.”
- IFC – PS1 par. 8 – “Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable”.

2.3.1 OHTL

Transmission line is the system that provides electrical energy transmission between substations and end consumers. An overhead transmission line consists of a copper or aluminum conductor cable, a carrier pole and an insulating insulator that provides the connection between the pole and the conductor.

According to Electricity Market Law in Türkiye, OHTL investments can be constructed or financed jointly by the legal entity or entities requesting connection to facilities in the following cases:

- Where it is necessary to construct a new transmission facility for the connection of generation and consumption facilities to the transmission system and new transmission lines to connect this facility to the transmission system,
- Where TEİAŞ does not have sufficient financing for the construction of these facilities
- Investment cannot be planned on time by TEİAŞ,

The investment cost is repaid by deducting from the transmission system usage fee within the framework of a facility contract to be signed between the relevant legal entity or entities and TEİAŞ, and connection and system usage agreements. According to the information obtained from the Client, a contractor company will be retained by an ordinary partnership that will be established with the participation of YEKA Project Owners in the same area (i.e., Bor-1 and Bor-2 SPP Project Owners) including the Client for the construction of energy transmission lines for all YEKA Projects. Under the understanding that the ~13 km transmission line will have the sole purpose to transmit the electricity generated at G4-Bor-3 SPP to the national grid and Kalyon Enerji will have control over the contractor, albeit limitedly, OHTL should be considered as an associated facility. However, it should be noted that the transmission line will also serve other adjacent YEKA Projects as an alternative connection.

At the time of writing, it is not clear whether OHTL will be counted as an associated facility for the reasons listed above. Therefore, it is not considered as an associated facility within the scope of the ESIA report.

2.3.2 Water Pipeline

A groundwater well will be drilled in the Industrial Specialized Zone declared for YEKA Projects and a pipeline will be constructed to Project area within the jurisdiction of the Special Provincial Directorate of Administration of Niğde for the supply of potable water needed for personnel and utility purposes during the operation phase by the managing company of the Industrial Specialized Zone. As per Industrial Zones Law No:4737 installation of the infrastructure is under the responsibility of the managing company of the Industrial Specialized Zone Therefore, the well and the water pipeline is not considered as an associated facility within the scope of the ESIA report.

2.4 Alternative Analysis

IFC PS1 requires full and detailed justification for any proposed alternatives through the environmental and social risks and impacts identification and assessment process. The purpose of this section is to summarize how the Project siting and components represent an optimized design that is technically and financially viable while minimizing overall environmental and social impacts.

2.4.1 Site Alternatives

The project area is located within the borders of the "Niğde-Bor Energy Specialized Industrial Zone" with an area of 2539 hectar, the official decision of which was published in the Official Gazette dated 19.11.2015 and numbered 29537, following the decision of the Council of Ministers dated 09.11.2015 and numbered 2015/8241.. The legal status of the plot was formerly pastureland and it was declared an industrial zone suitable for the development of a solar project: a Renewable Energy Resource Area by the Ministry of Energy and Natural Resources, published in the Official Gazette dated 29/09/2018 and numbered 30550. Consequently, it was launched the "Competition Announcement on the Allocation of Renewable Energy Resource Areas and Connection Capacities Based on Solar Energy"; YEKA SPP-4 (Bor-1, Bor-2 and Bor-3) competitions were held on 08.04.2022. YEKA Right of Use Agreements were signed on 16.05.2022 with Kalyon Enerji Yatırımları A.Ş., which won the competition held by the Ministry of Energy and Natural Resources for the G4 Bor-3 region.

Considering that only the Ministry of Energy and Natural Resources can declare YEKA, the Project area was defined by the Ministry before the Right of Use Agreements were signed by Kalyon Enerji. Therefore, a Site Selection Survey Report for the Niğde Bor Energy Specialized Industrial Region (ESIR) was carried out by Ministry of Science, Industry and Technology in 2015. In this report, the following reasons were given for site selection.

- Niğde province is one of the provinces with the best solar potential in Türkiye in terms of high annual average global radiation value (1,620 kWh/m^2 -year) and average daily sunshine duration (Niğde: 8.03 hours, TR average: 7.20 hours),
- Soils are generally infertile and poor in other energy sources,
- The total pasture area of 25,390,483.43 m^2 between Emen, Badak, Seslikaya Villages in Bor District of Niğde Province is of poor/very poor quality,
- According to the calculations made in terms of solar heating values, it is seen that the amount of electrical energy to be obtained from a solar field to be established on the determined land will be approximately 56% - 61% more than in the Bavaria region of Germany, where solar field investments are the most intensive in the world,
- If the lands determined in Bor District are declared as ESIR, the stage of reaching an agreement with the local authorities, which is an important stage of the investment process, will be simplified for the investor, and hundreds of investors who demand to produce energy from different points will benefit from the advantages brought by the ESIR by completing many legal processes in a short time in this region,
- Land's solar radiation values and sunbathing times, geographical location, low slope, lack of elevation in the east and west, idle land unsuitable for agriculture, lack of pollination, low rainfall and low humidity, low average temperature values, being the region with the lowest earthquake risk,
- Parcelization can be made in a size that can meet the production capacity of the companies that will apply for production,
- If the ESIR operates at full capacity, a minimum total installed capacity of 1,100 MW/h(p) will be achieved with an employment of 1,210 people and a total annual installed capacity of 1,727,780,036.12 kWh of

electrical energy can be obtained, this amount of environmentally friendly/renewable energy production will contribute to achieving a sustainable environment by reducing CO_2 emissions by 942,158,453.17 kg/year, and will contribute to the solution of the current deficit problem due to energy imports, which constitutes the biggest problem of the country's economy by preventing hydrocarbon imports equivalent to 148,589,083.06 Tonne of oil equivalent (TOE),

- The potential to attract investment if a solar farm is established on the entire designated land,
- Within Niğde University, "Nanotechnology Research and Application Center Laboratory", one of the few laboratories in Türkiye, has been established, many scientists experienced in solar cells are employed within the university and PV Photovoltaic cells have started to be manufactured in the said laboratory since the second half of 2014. The efficiency of the cells is at the level of 19% as of today, with the help of the facilities of Niğde University Laboratory and lecturers who are experts in this field.
- Supporting domestic companies that want to invest in PV with a national technology, producing solar energy panels in Niğde, establishing companies operating in our country that produce technology and solutions that can compete with their counterparts abroad and establishing research centers that these companies will come together, R&D of photovoltaic technologies, ensuring that systems are more efficient and raising expert scientists in this field.

Also, the report includes an assessment of the environmental and social issues (e.g., availability of water and electricity supply, wastewater and stormwater discharge facilities, location relative to the expansion direction of the city, earthquake zone, drainage and vulnerability to flooding, geological problems, impact on underground and underground drinking and potable water, impact on special protection areas, national park and natural monuments, location relative to solid waste disposal areas.

2.4.2 Technology Alternatives

There are two main types of solar energy technologies: photovoltaics (PV) and concentrating solar-thermal power (CSP). Concentrating solar-thermal power (CSP) systems use mirrors to reflect and concentrate sunlight onto receivers that collect solar energy and convert it to heat, which can then be used to produce electricity or stored for later use. It is used primarily in very large power plants. CSP technology often relies on water for cooling and steam generation whereas PV technology requires minimal to no water for electricity generation, PV systems typically require occasional cleaning to maintain optimal performance, while CSP systems involve more extensive maintenance and monitoring due to the use of mirrors, tracking mechanisms, and heat transfer fluids.[1] CSP systems typically require large open areas with specific land requirements and solar resource availability whereas PV panels can be installed on various surfaces. It is worth noting that CSP technology has its own advantages, such as the ability to incorporate thermal energy storage, which allows for continuous electricity generation even when the sun is not shining.[2] The choice between PV and CSP depends on factors such as project scale, location, energy requirements, and other specific considerations.

The Ministry identified photovoltaic solar energy as the project technology during the tender stage. Therefore, no other technology alternative was considered.

2.4.3 No-Project Alternative

The ‘No Project’ alternative is the situation where the Project, does not proceed. Under this scenario, there would not be any negative impacts on the environment, the beneficial socio-economic outcomes, economic benefit to local and national stakeholders and contribution to a sustainable environment would not happen.

[1] https://www.sciencedirect.com/topics/earth-and-planetary-sciences/solar-energy-technology

[2] https://www.solarfeeds.com/mag/csp-and-pv-differences-comparison/

However, considering that the Project area has been designated as YEKA and set aside for such projects, the Project area would still be used for other renewable energy projects if the "No Project" option was chosen.

2.5 Land Use

The total land use area in Niğde Province is 703,966 hectares. The central district of Niğde is the largest district in terms of surface area. The latest information available on land use of Niğde is based on the 2018 data of CORINE Land Use Classification System. The distribution of land use of Niğde according to the latest data available is provided in the figure below.

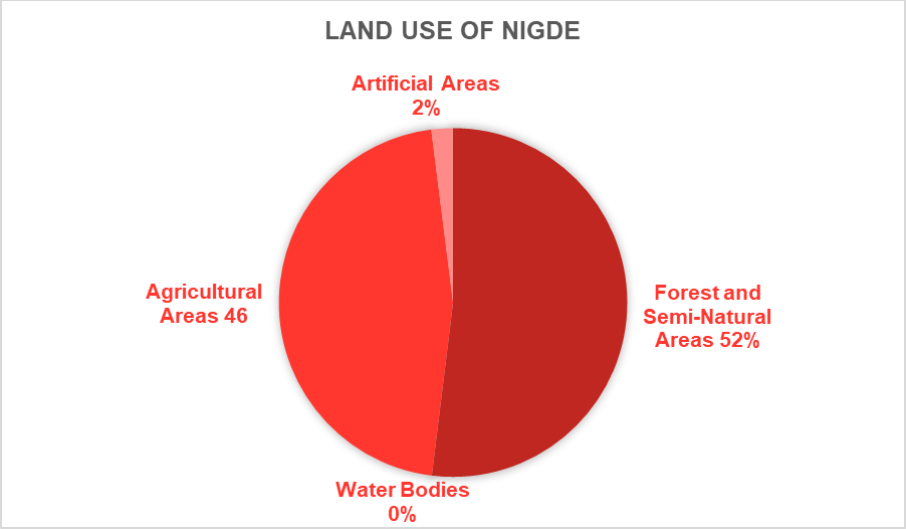


Figure 7: Land Use of Niğde

In Niğde, forest, semi-natural, and agricultural areas comprise almost all the land. Water Bodies comprise 0.17% of the total land.

According to the 2018 data from the CORINE Land Use Classification System, Bor's land use distribution is provided in the figure below.

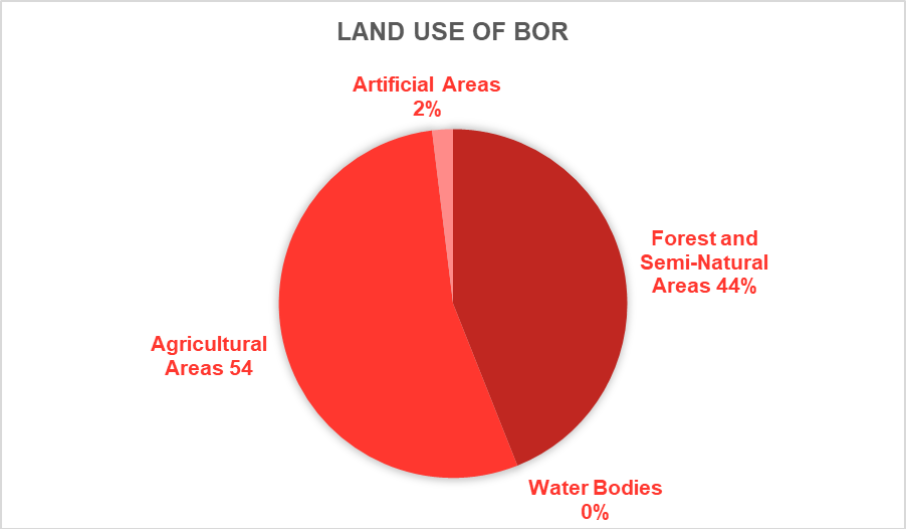


Figure 8: Land Use of Bor

In Bor, agricultural areas make up most of the land, indicating agriculture's predominance.

2.6 Project Schedule

A summary of the Project schedule is presented below. According to the schedule, the construction period of the Project is estimated to be 8 months and the overall operational period is estimated as 30 years.

Activity	Start Date	Finish Date
Permitting		
The signing of the YEKA Contract	16-May-22	-
Master Plan Approval	18-May-22	17-Feb-23
EMRA (EPDK) Pre-License Approval	01-Jun-22	01-Sep-22
Base Plan Approval of the Site	01-Jun-22	01-Sep-22
Environmental Impact Assessment Approval	01-Jun-22	01-Nov-22
Signing TEİAŞ Connection Agreement	05-Oct-22	05-Jan-23
Transfer of Land Ownership	18-Nov-22	01-Mar-23
Baseline Studies (Physical Measurements & Biodiversity Monitoring)	10-Jan-23	10-Mar-23
Land Allocation Approval	01-Mar-23	13-Mar-23
Ministry Approval of Design	12-Apr-23	26-Apr-23
Construction Permit	27-Apr-23	26-May-23
Electricity Generation License Approval	27-Apr-23	25-Jun-23
Final Delivery Acceptance Certificate Application & Issuance	09-Jul-23	13-Jul-23
Engineering	**06-Sep-22**	**30-Apr-23**
Substation Contracting & Engineering	06-Sep-22	01-Apr-23
SPP Engineering	28-Sep-22	11-Apr-23
OHTL Contracting, Engineering	04-Oct-22	11-Apr-23
CCTV & Lighting Engineering	01-Apr-23	30-Apr-23
Procurement	**07-Feb-23**	**03-Aug-23**
Construction	**24-Feb-23**	**16-Oct-23**
Solar System	24-Feb-23	16-Oct-23
Substation	13-Mar-23	13-Oct-23
OHTL	12-Apr-23	15-Jul-23
Test & Commissioning & Provisional Acceptance	**03-Jul-23**	**04-Nov-23**
Solar System	03-Jul-23	04-Nov-23
Substation	14-Oct-23	28-Oct-23
OHTL	16-Jul-23	20-Jul-23

Figure 9: Project Schedule

3.0 IMPACT ASSESSMENT SUMMARY

In order to assess the environmental and social impacts of the Project, an Environmental and Social Impact Assessment Report has been prepared with the following objectives:

- Identification and assessment of environmental and social impacts, both adverse and beneficial, in the Project's area of influence,
- Evaluation of the main environmental and social risks and potential impacts of the Project,
- Presentation of Environmental and Social Management and Monitoring Plan (ESMMP), Environmental and Social Management System (ESMS), Stakeholder Engagement documentation, and grievance mechanism (GM) in line with the Equator Principles (EP) 4 and IFC Performance Standards (PSs),
- Description of the management, mitigation, monitoring and compensation measures, including the ESMS, the ESMMP, and the thematic action or management plans,
- Cumulative impact assessment (CIA) (as required by the EP 4 and IFC PSs),
- Assessment of associated facilities,
- Main components of the assessment include:
    - The potential environmental and social impacts of the Project throughout the full life cycle,
    - A public consultation to ensure that local communities and other key stakeholders are informed of the Project and have an opportunity to express their opinions concerning the Project,
    - Proposed mitigation activities to minimize adverse environmental and social impacts,
    - The nature and significance of residual impacts (those adverse impacts that occur after mitigation has been applied) and ongoing monitoring and management plans to address them,
    - The nature and significance of cumulative impacts.

The ESIA Report aims to assess the environmental and social impacts of all Project sections as a whole.

First key step in the ESIA process was the preparation of the gap analysis to identify gaps in the national EIA Report and existing documentation provided by the Client with respect to the relevant international standards, and to suggest actions to address these gaps. The overall objective of the study was to review existing technical documents, reports and studies to evaluate the possibility of using the already available data in the preparation of the international ESIA.

An additional step of the ESIA preparation has been the review of supplementary documentation that has become available with the progress of the Project design. The review of the documentation has allowed the ESIA team to complete the gap analysis of the existing data and information as well as defining the methodology and structure of the ESIA and related documents.

Baseline information to be used in the ESIA is obtained from the Project specific social and environmental baseline studies that have been initiated during Gap Analysis process and carried out as part of the ESIA, utilising both desktop study and field-based approaches. These studies have been compiled through specifically commissioned surveys, collated from a range of sources including publicly available information and through consultation. Relevant information used to support the assessment process is referenced in the relevant sections of the ESIA.

Baseline field studies conducted in the scope of the Project are given below:

- 10th-12th of May 2023 by a team of social experts led by a WSP Türkiye Senior Social Specialist Elçin Kaya for the social baseline and social components of the impact assessment study.
- 1st of June 2023 by the expert botanist Prof. Dr. Hayri Duman from Gazi University (Faculty of Science, Dpt. Biology), fauna expert Şafak Bulut drom Hitit University (Faculty of Science, Dpt. Biology), and Çağrı Tekatlı biodiversity specialist of WSP Türkiye

Physical baseline studies namely, air quality, soil quality, groundwater quality and background noise were carried out by the Client. EHSS pre-construction survey including biodiversity was carried out by the Client on January 5, 2023 and survey report was provided to WSP Türkiye.

The Area of Influence ("AoI") of the Project which a direct or indirect impact on the biological, physical and social components might occur is given in Figure 15.

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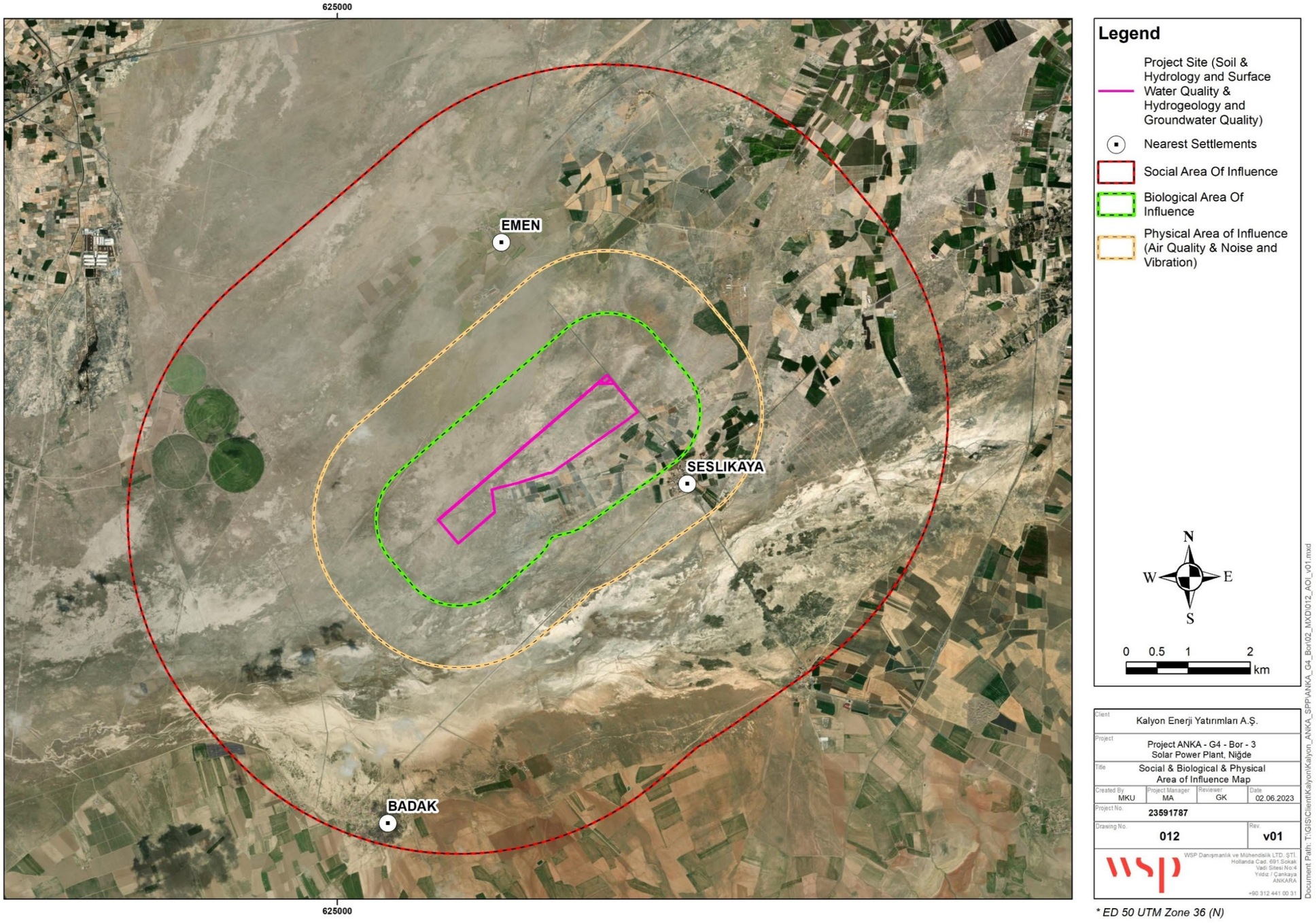

Figure 10: Area of Influence Map of the Project

Summary of the Impacts and Mitigation&Monitoring Activities

Component	Phase	Project action	Mitigation measures	Monitoring measures
Social Components				
Population and Demography	Construction	General engineering/construction works;	■ Camp Site and Offsite Accommodation Management will be implemented. ■ During the workers' accommodation design and planning process, the Annex I Checklist on Workers' Accommodation provided in the IFC - EBRD Guiding Notes on Workers' Accommodation will be followed to ensure that the document's requirements are met. ■ Accommodation will be fully contained with meals, entertainment, medical clinic. By this way interaction of the workers with local communities will be prevented as much as possible. The potential negative results of the interaction with the community residents will be explained to workers via social induction/trainings. Workers will not need to go into communities and if they pass through communities to get to the site at the beginning and end of their shift, they will be discouraged from interacting negatively with community residents. ■ Priority for the employment opportunities will be given to local residents where applicable, ■ Workers' accommodations will be designed in compliance with the processes and standards of the IFC and the EBRD (2009), and the basic needs of the workers will be provided within the borders of the accommodation to limit the interaction of the workers with the local communities to prevent the pressure on the local utilities and the services, ■ In case of the recruitment of workers outside the local area, cultural awareness training will be provided to workers to prevent any cultural conflicts, ■ Employee Code of Conduct will be -applied, ■ The mukhtars of the villages will be informed about the construction of the workers' accommodation, and the workers that will be accommodated in the camps will be registered in the village system (if required), ■ A grievance mechanism will be applied to record any gender-based complaints, and necessary measures will be taken accordingly.	■ Grievances records ■ Stakeholder Engagement and consultation registers ■ Number of the local employees ■ Training records on the Code of Conduct ■ Camp Inspection reports ■ Announcement of employment opportunities.
	Operation	Plant/infrastructure operation	■ Priority for the employment opportunities will be given to local residents where applicable, ■ In case of the recruitment of workers outside the local area, cultural awareness training will be provided to workers to prevent any cultural conflicts, ■ Employee Code of Conduct will be -applied, ■ A grievance mechanism will be applied to record any gender-based complaints, and necessary measures will be taken accordingly.	■ Grievances records ■ Stakeholder Engagement and consultation registers ■ Announcement of employment opportunities.

Component	Phase	Project action	Mitigation measures	Monitoring measures
Economy and Employment	Construction	General engineering/construction works;	■ The Project will implement human resource policy in compliance with the IFC PS-2 on Labor and Working Conditions. Such policies are expected to provide more predictable employment opportunities for direct and indirect employees, ■ The Project will enhance local employment, and referential employment will be given to qualified local people. Hiring preference criteria will prioritize settlements directly affected by the current activities of the Project, ■ Individuals whose livelihood sources are affected by the Project impacts will be given priority in the recruitment process of the Project, ■ Formal and transparent recruitment process will be implemented to provide equal opportunity to the applicants, ■ The mukhtars of the villages will be informed about the recruitment opportunities of the Project (announcements, banners) to reduce the requirement of the non-local labor force, ■ Where applicable, vocational training will be provided to local people to maximize the local labor force, ■ Before the procurement, local suppliers will be identified, and priority on purchases will be given to goods and services from local businesses, ■ Capacity development will be applied, including the OHS and HR, ■ Equal procurement opportunities will be provided to local small businesses through the Supplier Management Plan, ■ EPC, subcontractors and suppliers will be monitored to prevent child and forced labor through Contractor Management Plan and Supplier Management Plan, ■ An equal tender process will be applied, ■ Equal pay for equal jobs will be provided to the local and non-local labor forces, ■ Bank accounts will be provided to workers, and payments will be made via these bank accounts, ■ The Worker Grievance mechanism will be implemented.	■ Grievances records ■ Labor Audit Repots ■ Number of local employees
	Operation	Plant/infrastructure operation	■ To contribute to regional and global energy security, ■ To be a regional trade center in energy, ■ To consider social and environmental impacts in the context of sustainable development in every phase of the energy chain	■ Annual energy production records

Labour and Working Conditions	Construction & Operation	General engineering/construction works;
		
		Plant/infrastructure operation
			■ The accommodation of the workers will be clean and safe, and it will meet the basic needs of workers, providing minimum amounts of space for each worker; sanitary, laundry and cooking facilities. Overcrowding will be avoided.
			■ Heating, air-conditioning, and ventilation will be appropriate for the climatic conditions and provide workers with a comfortable and healthy environment to rest and spend their spare time.
			■ Drinking water to be provided to Project workforce and water to be supplied to food preparation, washing and bathing areas will meet the requirements of the Turkish Regulation Concerning Water Intended for Human Consumption.
			■ Adequate lavatory facilities (toilets, urinals, washbasins, and showers) will be provided for the number of people expected to work in the facility and allowances will make for indicating whether the toilet facility is “In Use” or “Vacant”. Toilet facilities will also be provided with adequate supplies of hot and cold running water, soap, and hand drying devices.
			■ First aid and medical facilities as well as provisions for safety against potential hazards (fire, etc.) will be provided at the camp sites.
			■ Domestic wastewater and waste to be produced at camp sites will be properly managed and disposed of in line with the requirements of Waste Management Plan.
			■ Workers who accommodate in the camps will be made aware of any rules governing the accommodation.
			■ Project’s Grievance Mechanism will provide means to the Project personnel to lodge their complaints. The Client will ensure that the workers are informed of the grievance mechanism at the time of recruitment and make it easily accessible to them.
			■ The following plans will be implemented:
			  ▪ Camp Management Plan and Offsite Accommodation Management Plan
			  ▪ Community Health and Safety Plan.
			  ▪ Security Management Plan
			  ▪ Labor Management Plan
			■ Provide and implement a grievance mechanism for employees and any suppliers.
			■ Ensure employees and any suppliers have access to human resources policies.
			■ Ensure employees are aware of their rights to join local trade unions.
			■ Undertake independent audits and inspections.
			■ The Client will implement Human Resources policy which observes wage standards, working hour regulation, freedom of association and staff encouragement. The policy will also eliminate child and forced labor, discrimination on the basis of religion, language, gender or social status, bullying and harassment.
			■ Workers will be provided with information including, but not be limited to, entitlement to wages, hours of work, overtime arrangements and overtime compensation, and any benefits (such as leave for illness, maternity / paternity, or holiday).
			■ All workers will be able to join trade unions of their choice and have the right to collective bargaining.
			■ Contracts will be verbally explained to all workers where this is necessary to ensure that workers understand their rights prior to any employment contract to be signed.
				■ Grievances records
				■ Work contracts in line with Turkish Law and the IFC PS2.
				■ Workforce statistics
				■ Labor Audit Report(s)
				■ Training Records

Component	Phase	Project action	Mitigation measures	Monitoring measures
			■ Wages, benefits and conditions of work offered will be comparable to those offered by equivalent employers in Niğde and same sector. ■ The Project and all contractors will put in place a formal worker grievance mechanism.	
Land Use (Livelihoods and Land Access Restrictions)	Construction	General engineering/construction works;	■ Economic displacement impacts will be minimized during the design phase of the Project. ■ Community Development Plan will be prepared and implemented to bridge the gaps between Turkish Expropriation Law and IFC PS-5. ■ Vulnerable people that will be affected by the land acquisition will be determined and specific assistance will be provided including transportation and legal. ■ During the recruitment process priority will be provided to people who lost their livelihoods as a result of the establishment of the Project. ■ All construction works will be continuing within the borders of the designated areas and in case of an unplanned damage, loss of the affected PAPs will be compensated by the contractors. ■ Community Liaison Officer will be hired and monitor the land acquisition process and collect grievances. ■ Implementation of the Community Development Programs in accordance with IFC requirements to restore the livelihood loss of the residents as a result of the loss of the grazing areas. ■ Grievance mechanism will be -applied. ■ Impacts to agricultural and pasture lands will be minimized as far as possible by keeping the Project construction footprint as narrow as possible, and efficiently restoring any damaged areas. ■ Any business losses will be compensated at a full replacement value. ■ Any loss of or damage to crops caused by Project activities will be compensated. ■ During operation it is essential that the water structures, will be regularly inspected and be periodically maintained to ensure proper conveyance of water, avoid stagnation and prevent flooding and damages. ■ Hunting and collection of wild animals will be strictly prohibited within the Project area. ■ A CDP will be developed and implemented and one of the main target groups will be the ecosystem users.	■ Grievances records ■ Monitoring report results

Community Health and Safety	Construction	General engineering/construction works;	A Traffic Management Plan have been prepared within the scope of the Project to maintain traffic safety on the roads to be used and to prevent the risks which may outcome due to Project activities ensuring a “safe site, safe vehicle and safe driver” at all times. The following points will be considered as a minimum regarding traffic management:
			■ Referring to the Stakeholder Engagement section of this ESIA Report, a continuous stakeholder engagement process and grievance mechanism will be in place:
			  ▪ To exchange information on the Project with the local community and other stakeholders; and
			  ▪ To record and respond to complaints and concerns from the local community members and other stakeholders.
			■ Considerations will be given to traffic volumes at the rush hours of the day, and transportation of equipment and materials will be utilized at quieter periods to avoid increased congestion on the roads used by the local communities.
			■ It will be ensured that the roads will be made suitable for heavy vehicle use by taking necessary permits and making necessary arrangements. In case of any road damage, necessary maintenance works will be undertaken.
			■ Project site will be equipped with suitable and sufficient lighting to ensure sufficient visibility.
			■ Community Health and Safety Plan (CHSP) will be implemented,
			■ In case construction activities are required on the existing roads will only start after the relevant permits are obtained; all necessary precautions will be taken as signage, barrier, fence, lighting,
			■ Vulnerable and critical points will be identified in the Project site (including sensitive receptors such as hospitals and schools) to envisage the access routes for construction traffic,
			■ Construction vehicles will only operate in the defined routes; vehicles will be monitored via an In Vehicle Monitoring System,
			■ Cameras will be placed in appropriate places on the roads so that construction vehicles belong to different projects can be distinguished and monitored.
			■ At all times, vehicles will be kept on designated site roads where established. Off-road driving is prohibited except in emergencies or if no roads have been established.
			■ If reversing cannot be avoided in the work areas, necessary reversing procedures will be identified, including installing reversing aids on vehicles, reversing sensors etc. Trained banksman will be used when reversing cannot be avoided.
			■ Parking areas will be designated with signs, and reverse parking will be implemented for emergencies.
			■ The routes to be used by pedestrians will be segregated from heavy vehicle routes where possible.
			■ Appropriate traffic signs, signals, lights and markings will be placed in the required areas to prevent potential accidents/incidents. Barriers will be placed in the required areas to protect human health and assets.
			■ The speed limits will be implemented. Vehicle speeds will be monitored randomly through speed gun tools.
				■ Grievance records
				■ Stakeholder engagement and consultation register
				■ Environmental monitoring records
				■ Training records on health topics, community awareness and code of conduct
				■ Traffic accident records
				■ Training records on drivers
				■ Visual Inspections
				■ Training records of security personnel
				■ Training records of community consultations
				■ Security incident records
				■ Monitoring reports results

			■ Seatbelts will be worn in vehicles and machinery when being operated. ■ No vehicle/equipment/material will be allowed to enter work areas before obtaining approval from security. ■ Loading areas will be designed appropriately to prevent/minimize vehicle/pedestrian contact and property damages. ■ All operators will be licensed/certified for the type of vehicle being driven and will undergo medical surveillance. ■ Repair and maintenance of vehicles will be done by the authorized bodies. ■ Changes in the condition of the roads will be monitored regularly, and road improvement works will be carried out, when necessary, ■ Fatigue and distraction procedures will be established considering the local legal requirements and the nature of the work. ■ Project disclosure activities will include informing communities about the project traffic management controls, planned road closures, blasting activities and grievance mechanisms. Collaboration with local communities and responsible authorities will be ensured to improve signage, visibility, and road safety conditions, especially near the roads and other locations where children may be present. ■ In SEP of the Project, these information-sharing methods and schedules will be defined. ■ In order to minimize the particulate matter emission that will occur within the scope of the Project: ■ The transportation routes to be used will be watered regularly with water sprinklers, ■ The removal and laying operations of the materials will be carried out without tossing as much as possible. ■ Measures defined in Chapter 7 of the ESIA Report and Pollution Prevention Plan will be followed. ■ All machines to be used under normal operating conditions will not run simultaneously, ■ Monthly and annual maintenance of machinery and equipment will be done periodically, ■ Measures defined in Chapter 7 of the ESIA Report and Pollution Prevention Plan will be followed. ■ Quality spare parts and lubrication products will be used. Considering the expected population influx and the insufficient infrastructure system in some of the settlements in the AoI identified in the socioeconomic baseline, mitigation measures have been defined to prevent the pressure and negative impact on infrastructure and services caused by the population influx, especially during the construction phase. Certain negative impacts related to the population influx due to the Project on infrastructure and services are as follows: ■ The inability of vulnerable groups to equally access social and health services due to supply-demand imbalance, ■ Population influx due to the Project intensifying health services and decreasing the quality of service, ■ Delays in responding to emergencies on time,	

			■ The emergence of inadequacies due to increased demand for drugs and medical needs. The population increase may lead increase in communicable and infectious diseases in the Project Area of Influence. The following are the essential control measures to be implemented to avoid the spread of communicable diseases: ■ Pre-employment health screening and regular medical checks of workers per Turkish regulatory requirements, ■ Regular cleaning principles to be applied in the Project site, ■ Community Health and Safety Management Plan should be implemented for the Project that includes medical surveillance, ■ Awareness-raising on healthy lifestyles for workers and community-level training. ■ All waste or excess material that may be remained due to the activities in the Project area will be disposed of under laws and regulations. ■ Waste Management Plan and Pollution Prevention Plan will be followed. A Security Management Plan have been prepared in line with the national (Private Security Services Law No: 5188, 2004) and international (e.g., IFC PS4) standards within the scope of the Project to manage the security-related impacts and ensure the security of the activities, assets, work premises at the Project and avoid potential impacts on workers and the local community. The following measures will be considered as a minimum regarding security arrangements: ■ Security will be provided at the Project area by third-party company or in-house security personnel with no criminal histories or history of abuse, ■ Security personnel will be trained adequately in their envisaged roles and responsibilities, the use of force (and, where applicable, firearms), and appropriate conduct toward workers and affected communities and the applicable law, ■ Security patrols will be done at regular intervals, ■ Entry of unauthorized persons will be prevented by using appropriate tools and gadgets. Warning signs about unauthorized entry will be available at various locations at the Project crossings, ■ Entry and removal of equipment/material will be controlled at the control points; the movement of equipment/material will be allowed after the approval of the relevant department, ■ A grievance mechanism will be in place for the affected communities to express their concerns about the security arrangements and acts of the security personnel, ■ Relevant Project officials will continuously accompany the visitors during their stay on the Project site, and all visitors will be recorded, ■ All visitors will be given brochures explaining the Project area, site rules and what to do in case of emergencies, ■ Personal Protective Equipment will be provided to visitors coming to the Project site, ■ All areas that may be dangerous to visitors will be locked, ■ All areas that pose a danger at the Project area will be marked with appropriate signs.	

Component	Phase	Project action	Mitigation measures	Monitoring measures

	Operation	Plant/infrastructure operation	A Traffic Management Plan have been prepared within the scope of the Project to maintain traffic safety on the roads to be used and to prevent the risks which may outcome due to Project activities ensuring “safe site, safe vehicle and safe driver” at all times.
			
			Following points will be considered as a minimum regarding traffic management:
			
			■ Referring to Stakeholder Engagement section of this ESIA Report, a continuous stakeholder engagement process and grievance mechanism will be in place:
			  ▪ to exchange information on the Project with the local community and other stakeholders; and
			  ▪ to record and respond any complaints and concerns raised by the local community members and other stakeholders.
			■ Project site will be equipped with suitable and sufficient lighting to ensure sufficient visibility.
			■ At all times vehicles will be kept on designated site roads where established. Off-road driving will not be permitted other than emergency situations, or if no roads have been established yet.
			■ Parking areas will be designated with signs and reverse parking will be implemented for emergency situations.
			■ The routes to be used by pedestrians will be segregated from vehicle routes where possible.
			■ The speed limits will be implemented.
			■ Project disclosure activities will include informing communities about the project traffic management controls, planned road closures, blasting activities and grievance mechanism. Collaboration with local communities and responsible authorities will be ensured to improve signage, visibility, road safety conditions especially near the roads and other locations where children may be present.
			■ Appropriate traffic signs, signals, lights and markings will be placed at the required areas to prevent potential accidents/incidents. Barriers will be placed at the required areas to protect both human health and assets.
				■ Grievance records
				■ Stakeholder engagement and consultation register
				■ Training records on health topics, community awareness and code of conduct
				■ Traffic accident records
				■ Training records on drivers
				■ Visual Inspections
				■ Monitoring reports results

Component	Phase	Project action	Mitigation measures	Monitoring measures
Cultural Heritage	Construction	General engineering/construction works	■ Cultural Heritage Management Plan and Chance Find Procedure, which are necessary for the management of the “chance finds”, prepared in compliance with the project organization will be implemented. All operators, who are to be engaged in the soil works, and project workers should receive training related to “project requirements, protection of cultural and archaeological heritage, laws and legislations related with the archaeological and cultural heritage and cultural heritage management plan and chance find procedures”. ■ In case any chance find is encountered during the construction activities, the further steps should be taken in accordance with the plans and procedures and the relevant bodies, and the Directorate of the Museum will be notified immediately. In cases where any find or information associated with archaeological potential of the site is already discovered, relevant instructions about the sensitivity of the site will be shared with all construction teams a few days before the construction activities. The construction activities will be conducted with appropriate equipment and methods. The appropriate equipment will be identified together with the directorate of the museum and the construction teams. ■ Protection of site: chance find should not be moved, removed or further disturbed. ■ In particular, all operators and Project workers assigned to land preparation works should receive training on project requirements, protection of cultural and archaeological heritage, laws and regulations regarding archaeological and cultural heritage, Cultural Heritage Management Plan and Chance Find Procedure;	■ Visual check ■ Site inspection reports ■ Monitoring reports results
Visual Aesthetics	Construction	General engineering/construction works	■ After the completion of construction, the areas used as construction area will be returned to their original use. ■ During the construction phase, restricted hours of working will be proposed especially for built up areas. Using machinery during those hours should be avoided in residential properties. ■ The housekeeping of the entire Project Area will be given importance throughout the life of the Project. ■ To minimize light spillage from the site, every effort should be made to minimize the number of lights consistent with health and safety standards. In a similar way, all lights should be shielded and as much as possible pointed to the ground to avoid direct light effects on sensitive receptors around the Project Area. ■ Regular monitoring of the affected people’s grievances with regard to visual impacts. For this, the external grievance mechanism should be implemented properly, and all stakeholders should have access to this mechanism. ■ Implementation of dust suppression during construction.	■ Grievance records

Component	Phase	Project action	Mitigation measures	Monitoring measures
	Operation	Plant/infrastructure operation	■ The housekeeping of the entire Project Area will be given importance throughout the life of the Project. ■ To minimize light spillage from the site, every effort should be made to minimize the number of lights consistent with health and safety standards. In a similar way, all lights should be shielded and as much as possible pointed to the ground to avoid direct light effects on sensitive receptors around the Project Area. ■ Regular monitoring of the affected people's grievances with regard to visual impacts. For this, the external grievance mechanism should be implemented properly, and all stakeholders should have access to this mechanism.	■ Grievance records
Physical Components				
Air Quality	Construction	General engineering/construction works (i.e., land clearing, ground excavation, cut and fill operations, camp site operations) Material transportation	■ Use of water spraying at construction sites and transportation routes, especially in hot-dry seasons and in windy conditions, ■ Loads in all trucks transporting dust-generating materials will be sprayed with water to suppress dust (keeping the material moist), ■ Ensure loading and unloading without skidding, ■ Use of water suppression for control of loose materials on paved or unpaved road surfaces ■ Completed earthworks will be sealed as soon as reasonably practicable after completion; ■ In case alternative roads are present, construction traffic will avoid passing through the settlements. If unavoidable, necessary measures (i.e., speed limits) will be taken to prevent/minimize transportation related emissions and inform the communities about the activities and schedule; ■ Enforce speed limits and reduce vehicle movements and idling on site; ■ Trucks carrying fine material (excavation soil or fine material, etc.) to the site or from the site will be covered with tarpaulin to prevent dust emissions; ■ Lighting of fire and burning of materials in will be prohibited; ■ Activities will be conducted trying to use the minimum required number of means at the same time, ■ Transportation distances will be minimized where possible, ■ Vehicle engines and other machinery will be kept turned on only if necessary, avoiding any unnecessary emission; ■ Machinery and equipment will be periodically checked and maintained to ensure their good working condition; ■ All equipment and machinery must be maintained for compliance with standards and technical regulations for the protection of the environment and have appropriate certifications; ■ Emergency generator working hours will be recorded and necessary emission measurements will be conducted in case of exceeding 500 working hours in a year. Monthly operating hours of the previous year and the records regarding the amount of gas/fuel consumed in emergency situations and the frequency of the emergency (year/day) will be reported to Provincial Directorate of Ministry of Environment, Urbanization and Climate Change (MoEUCC) until January 31 of each year. ■ Exhaust gas emission arising from the engine land vehicles in traffic will comply with the Regulation on Control of Exhaust Gas Emissions. Vehicles will be subjected to appropriate routine maintenance programs and emission measurements as required by the regulation. The use of vehicles that do not comply with the emission limits will not be permitted until such vehicles will be	■ Grievances records ■ Air quality monitoring results ■ Regular (daily) visual monitoring ■ Maintenance records of vehicles and equipment ■ Warnings/penalties given by public authorities

Component	Phase	Project action	Mitigation measures	Monitoring measures
			serviced and re-tested. Emission measurements of heating centers in the construction camps (if any) will be conducted according to Regulation on Control of Air Pollution from Heating if the thermal power is below 1000 kW and Regulation on Control of Industrial Air Pollution if the thermal power is above 1000 kW ■ Keep stockpiles for the shortest possible time; ■ Consider the prevailing wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors; ■ Slow down or cease the dust generating work under strong winds, such as reducing work activities or using water spray to reduce dust dispersion. ■ Minimize material handling and avoid double handling; ■ Where dust levels may still cause a nuisance (despite measures above), water or other control measures may be required as additional measures to control dust. ■ Electric small-scale mechanization and technical tools will be used when available and feasible; ■ Provide PPE to workers on site, such as dust masks where dust levels are likely to be excessive; ■ During the second half of the August 2023, ▪ Additional dust water suppression methods will be applied, such as increasing the water spraying. minimize the number of the vehicles in this period as much as possible.	
	Operation	Plant/infrastructure operation	■ Vehicle engines and other machinery will be kept turned on only if necessary, avoiding any unnecessary emission. ■ Vehicles will be periodically checked and maintained to ensure their good working condition. ■ Activities will be conducted trying to use the minimum required number of means at the same time;	■ Maintenance records of vehicles and equipment
Noise and Vibration	Construction	General engineering/construction works Material transportation.	■ Selection of equipment with lower sound power levels; ■ Installing silencers for fans; ■ Installing suitable mufflers on engine exhausts and compressor components; ■ Installing acoustic enclosures for equipment casting radiating noise; ■ Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas; ■ Speed limit applications should be applied throughout site for the Project vehicles that will transport construction materials / equipment; ■ Properly refurbished and/or new machinery, equipment and vehicles will be used to the extent possible; ■ Any component of machinery or equipment, which is thought to generate excessive noise (e.g., a defective muffler, broken or loosely placed engine hood) will be discarded if said components cannot be maintained/repaired and they will be replaced as appropriate; ■ Engine covers will be kept closed when the equipment is in operation to minimize noise; ■ Workers will be trained in noise abatement best practices, including avoiding unnecessary operation of engines and switching off equipment when it is not required; ■ Idling of construction vehicles will be avoided;	■ Grievances records ■ Noise monitoring results ■ Maintenance records of vehicles and equipment ■ Warnings/penalties given by public authorities

Component	Phase	Project action	Mitigation measures	Monitoring measures
			■ Best management practices (e.g., selection of equipment and work methods) will be used to limit vibration impacts, particularly nuisance vibration. Heightened attention to vibration control will occur when working within 50 meters of residences and other sensitive receptors with high vibration creating equipment. Significant changes to the vibration levels can occur based on the soil conditions and the driving energy of the hammer; ■ Re-locating noise sources to fewer sensitive areas to take advantage of distance and shielding; ■ Reducing the Project traffic routing through community areas wherever possible; ■ Developing a grievance mechanism to record and respond to complaints; ■ Carrying out the regular maintenance of the construction equipment in order to minimize the possible high noise levels generated by the equipment. ■ Performing quarterly monitoring campaigns at the baseline noise measurement locations during the construction phase; and ■ If the construction phases of the Project and G4-Bor-1 Solar Power Plant Project to be realized by Smart GES Enerji Üretim A.Ş. and G4-Bor-2 Solar Power Plant Project to be realized by Ecogreen Elektrik Enerji Üretim A.Ş. overlap, Kalyon Enerji will communicate with the planned project contractors, and plan the construction activities to minimize the adverse noise impacts on receptors through measures such as scheduling of noise generating activities.	
	Operation	Plant/infrastructure operation	■ In case of any noise related grievance, noise measurement campaign will be carried out immediately at the area where noise related grievance is received; ■ Noise levels will be monitored at the receptors where the defined noise limit values are exceeded, at least for a year on monthly basis; and ■ In cases when monitoring results indicate that noise levels are above the defined limits, then noise abatement measures will be implemented (e.g., noise barriers at the source, soundproofing, etc.).	■ Maintenance records of vehicles and equipment ■ Noise monitoring results ■ Grievances records
Soil and Subsoil	Construction	General engineering/construction works; Material Storage Accommodation and management of the workforce	■ Project-specific Soil Management and Erosion Control Plan will be implemented. ■ To prevent off-site sediment movement, erosion control measures such as drainage channels will be implemented as necessary prior to the start of construction operations. ■ Wherever possible, land preparation and construction activities shall be re-scheduled during extreme weather conditions to avoid risk of erosion. ■ Subsoil removal studies will be completed in compliance with the Regulation on Control of Excavated Soil, Construction and Demolition Wastes issued on March 18, 2004 at Official Gazette no: 25406 and other international practices. ■ Subsoil loss will be minimized with appropriate equipment, plan, procedure, and schedule. Also, unnecessary soil stripping will not be carried out during construction activities to minimize disturbance to vegetation, ground species and soils. ■ Bedding, padding, backfilling, and aggregate materials will be purchased from licensed quarries. ■ Excess excavated material will be disposed at licensed storage/recycling facilities as required by the Regulation on Excavation, Construction and Demolition Wastes issued on March 18, 2004 at Official Gazette no.25406. In case a licensed facility cannot be found, the Client will identify parcels, for which usage	■ Visual Site inspection ■ Monitoring report results ■ Maintenance records of vehicles and equipment ■ Grievances records ■ Waste disposal records ■ Records of the contractual agreements for disposal of wastes

Component	Phase	Project action	Mitigation measures	Monitoring measures
			rights will be obtained from the respective right holders as per the requirements of the applicable legislation. Environmental and social assessment studies as per Management of Change Procedure will be implemented during selection and entry to the off-site excavated material storage sites. Criteria such as selecting brownfields, that are not used for agricultural or grazing purposes and having a sufficient distance to settlement areas and will be considered in the selection of excavated material storage sites ■ Project-specific Pollution Prevention Plan and Waste Management Plan will be implemented to ensure that the amount of release and spills can be taken under control before reaching substantial amounts that may potentially affect the quality of soil. ■ The areas, where the hazardous materials (chemicals, liquids etc.) storage tanks located (i.e., hazardous material storage areas), will be designed and constructed to avoid potential contamination into the soil (paved areas with sufficient secondary containment, proper drainage systems, storage as per Material Safety Data Sheet (MSDS) requirements etc.). Also, the Project will comply with relevant legal and project safety requirements to avoid leakages from hazardous materials (chemicals, liquids etc.) storage facilities on-site; ■ The temporary waste storage areas will be constructed based on the requirements listed in the Regulation on Waste Management issued on April 02, 2015 Official Gazette no: 29314 and GIIP. ▪ The area will be separate from the facilities and buildings, away from human traffic. ▪ There will be a suitable space for the licensed vehicles to receive the wastes. ▪ Storage area will have all kinds of precautions against possible fires and spills (fire extinguisher, spill kit, etc.). ▪ Hazardous wastes and non-hazardous wastes will be stored separately, having different entrance doors. ▪ In order to protect the compartment where hazardous waste will be stored from precipitation, the top and four sides will be covered. The compartments where non-hazardous wastes will also be covered from precipitation. ▪ Storage area will be closed, the entrance door will be lockable (kept locked) and the authorized the staff will have the keys. ▪ The contact information of the personnel in charge of the waste storage area and warning signs will be posted at the temporary storage areas. ▪ Adequate drainage system will be provided to collect any leakages. ▪ The floor will be covered with concrete, the edges of the floor will be raised with concrete walls/parapets for hazardous waste compartment. ▪ In order for the concrete to be impermeable; cured concrete with a minimum thickness of 25 cm will be applied or the concrete to be used for this purpose will be in C30 (STS) standard. If this condition is not met, impermeability will be ensured by laying a of at least 1 mm between the concrete and the soil floor. ▪ Wastes will be stored separately from each other, in tanks and containers. Labels indicating the type of waste will be placed for each type of waste. ▪ Removal of wastes will be ensured inappropriate frequencies so that storage capacities at the temporary	

Component	Phase	Project action	Mitigation measures	Monitoring measures
			waste storage areas/storage compartments are not exceeded. Hazardous wastes (except medical waste) will be temporarily stored at the waste storage areas for a maximum duration of 6 months and non-hazardous waste for a maximum duration of one year. ■ Industrial Waste Management Plans for all temporary waste storage area established by -EPC and its-subcontractor (including hazardous and non-hazardous waste) will be submitted to the relevant Provincial Directorate of MoEUCC as per the format defined by the MoEUCC. ■ Temporary Waste Storage Permit will be obtained from the related Provincial Directorate of MoEUCC for temporary waste storage sites at the site generating hazardous waste of more than 1,000 kg per month. ■ Hazardous Materials and Hazardous Waste Compulsory Liability Insurance will be executed as per the relevant provisions of the Regulation on Waste Management for the hazardous waste temporary storage areas/containers regardless of the amount of hazardous waste stored; ■ Waste reuse/recycling/recovery/disposal agreements with the Municipality and licensed recovery/disposal -companies will be executed for the management of hazardous and non-hazardous waste. ■ Official waste declarations for all waste generated will be submitted to the online system of MoEUCC, starting from January each year until the March at least. ■ Waste storage out of the designated storage areas will be prohibited. Wastes generated in the interim storage areas will be transferred to the temporary storage area; ■ Regular maintenance of vehicles and machinery/equipment will be undertaken to ensure that leakages of oil/fuel or any other hazardous material is prevented; ■ Impervious (concrete etc.) surfaces will be designated for the refueling and maintenance of the machinery/vehicles. If it is not possible according to the nature of the Project, all refueling tankers and all heavy machinery used at the site will have drip trays, and these trays will be placed under the pipe connection points to prevent accidental leakage to the soil during refueling operations; ■ Generators will be equipped with drip trays and to be checked regularly to prevent soil contamination; ■ Secondary containments, ponds and drip trays will be checked regularly, especially during extreme weather conditions; ■ Portable spill containment and clean-up materials (spill kits) will be made available and easily accessible at the construction site, instructions on how to use spill containment and clean-up materials will be included in the kits; ■ Training on spill response, use of containment and clean-up material (spill kits) will be provided to works (including the subcontractor workers); ■ In case of a spill/leakage incident on-site, contamination levels will be identified by means of sampling and analyses studies to be conducted by accredited laboratories and the results will be compared with baseline concentrations of the related parameters to plan corrective actions where necessary; ■ Pumps and transmixers will be washed only at the concrete plants, concrete slurry will not be discharged into environment; ■ Accidental spills and leakages will be managed through implementation of the Emergency Preparedness and Response Plan.	

Component	Phase	Project action	Mitigation measures	Monitoring measures
			■ Project-specific Pollution Prevention Plan will be implemented for the management of sewage wastewater and implemented during the construction and operation phases of the Project. ■ A leakproof report of the septic tanks will be ensured and necessary measures will be taken to prevent them from deforming in extreme weather conditions; ■ No untreated wastewater discharges of any type to land will be allowed. Polluted water (if any generated as a result of accidental leakages) will be properly collected or managed to prevent the soil pollution. ■ Discharge of wastewater will be in compliance with the applicable regulatory requirements given in Appendix B.	
	Operation	Plant/infrastructure operation	■ Project-specific Pollution Prevention Plan and Waste Management Plan will be implemented to ensure that the amount of release and spills can be taken under control before reaching substantial amounts that may potentially affect the quality of soil. ■ The areas, where the hazardous materials (chemicals, liquids etc.) storage tanks located (i.e., hazardous material storage areas), will be designed and constructed to avoid potential contamination into the soil (paved areas with sufficient secondary containment, proper drainage systems, storage as per Material Safety Data Sheet (MSDS) requirements etc.). Also, the Project will comply with relevant legal and project safety requirements to avoid leakages from hazardous materials (chemicals, liquids etc.) storage facilities on-site; ■ The temporary waste storage areas will be constructed based on the requirements listed in the Regulation on Waste Management issued on April 02, 2015 Official Gazette no: 29314 and GIIP. ▪ The area will be separate from the facilities and buildings, away from human traffic. ▪ There will be a suitable space for the licensed vehicles to receive the wastes. ▪ Storage area will have all kinds of precautions against possible fires and spills (fire extinguisher, spill kits, etc.). ▪ Hazardous wastes and non-hazardous wastes will be stored separately, having different entrance doors. ▪ In order to protect the compartment where hazardous waste will be stored from precipitation, the top and four sides will be covered. The compartments where non-hazardous wastes will also be covered from precipitation. ▪ Storage area will be closed, the entrance door will be lockable (kept locked) and the authorized the staff will have the keys. ▪ The contact information of the personnel in charge of the waste storage area and warning signs will be posted at the temporary storage areas. ▪ Adequate drainage system will be provided to collect any leakages. ▪ The floor will be covered with concrete, the edges of the floor will be raised with concrete walls/parapets for hazardous waste compartment. ▪ In order for the concrete to be impermeable; cured concrete with a minimum thickness of 25 cm will be applied or the concrete to be used for this purpose will be in C30 (STS) standard. If this condition is not met, impermeability will be ensured by laying a membrane of at least 1 mm between the concrete and the soil floor.	■ Visual Site inspection ■ Monitoring report results ■ Maintenance records of vehicles and equipment ■ Grievances records ■ Waste disposal records ■ Records of the contractual agreements for disposal of wastes

Component	Phase	Project action	Mitigation measures	Monitoring measures
			▪ Wastes will be stored separately from each other, in tanks and containers. Labels indicating the type of waste will be placed for each type of waste. ▪ Removal of wastes will be ensured in appropriate frequencies so that storage capacities at the temporary waste storage areas/storage compartments are not exceeded. Hazardous wastes (except medical waste) will be temporarily stored at the waste storage areas for a maximum duration of 6 months and non-hazardous waste for a maximum duration of one year. ■ Industrial Waste Management Plans for all temporary waste storage area established by contractors (including hazardous and non-hazardous waste) will be submitted to the relevant Provincial Directorate of MoEUCC as per the format defined by the MoEUCC. ■ Temporary Waste Storage Permit will be obtained from the related Provincial Directorate of MoEUCC for temporary waste storage sites at the site generating hazardous waste of more than 1,000 kg per month. ■ Hazardous Materials and Hazardous Waste Compulsory Liability Insurance will be executed as per the relevant provisions of the Regulation on Waste Management for the hazardous waste temporary storage areas/containers regardless of the amount of hazardous waste stored; ■ As per the Circular entitled 'COVID-19 Measures for the Waste Management of Single Use Masks, Gloves and Other Personal Hygiene Materials'; ▪ Masks, gloves and other personal hygiene material wastes generated at the offices, dormitories and work sites will be collected separately. ▪ Waste bins will be placed at the entrances and exits of the office buildings, dormitories, cafeterias and at common areas across the accommodation facilities and work sites. ▪ The waste bins will be labelled explicitly. ▪ Waste bags will not be mixed with other wastes and the waste bags will be transported to a designated temporary storage area by securing them in a second bag via tightly closing. ▪ The wastes will be kept at designated temporary storage areas out of reach of other people and animals for at least 72 hours and then will be delivered to the municipality to be managed under 'other' domestic waste category. ▪ The temporary waste storage areas will be kept closed at all times and secured appropriately. ▪ The wastes generated in potential site quarantine/isolation units and at the site infirmaries will be managed as 'medical waste' and wastes generated from these areas will not be mixed with other wastes. ■ Waste reuse/recycling/recovery/disposal agreements with the Municipality and licensed recovery/disposal firms will be executed for the management of hazardous and non-hazardous waste. ■ Official waste declarations for all waste generated will be submitted to the online system of MoEUCC, starting from January each year until the March at least. ■ Waste storage out of the designated storage areas will be prohibited. Wastes generated in the interim storage areas will be transferred to the temporary storage area;	

Component	Phase	Project action	Mitigation measures	Monitoring measures
			■ Regular maintenance of vehicles and machinery/equipment will be undertaken to ensure that leakages of oil/fuel or any other hazardous material is prevented; ■ Impervious (concrete etc.) surfaces will be designated for the refueling and maintenance of the machinery/vehicles. If it is not possible according to the nature of the Project, all refueling tankers and all heavy machinery used at the facility will have drip trays, and these trays will be placed under the pipe connection points to prevent accidental leakage to the soil during refueling operations; ■ Generators and any equipment containing chemicals will be placed in localized bunded & kerbed areas for containment of drainage, spillages and leaks in order to minimize contaminated water routed to the drains. ■ Secondary containments, ponds and drip trays will be checked regularly, especially during extreme weather conditions; ■ Portable spill containment and clean-up materials (spill kits) will be made available and easily accessible at the facility, instructions on how to use spill containment and clean-up materials will be included in the kits; ■ Training on spill response, use of containment and clean-up material (spill kits) will be provided to works; ■ In case of a spill/leakage incident on-site, contamination levels will be identified by means of sampling and analyses studies to be conducted by accredited laboratories and the results will be compared with baseline concentrations of the related parameters to plan corrective actions where necessary; ■ Accidental spills and leakages will be managed through implementation of the Emergency Preparedness and Response Plan.	

Hydrology and Surface Water	Construction	General engineering/construction works;
		
		Accommodation and management of the workforce
			■ The project will comply with safety requirements to avoid leakages from hazardous chemicals/materials and liquids (diesel fuel, oil etc.) stored on-site.
			■ The areas where the diesel/fuel storage tanks are located (can be named hazardous material storage areas), will be designed and constructed to avoid potential contamination of the soil (paved areas with sufficient secondary containment, proper drainage systems, collection ponds etc.).
			■ The temporary waste storage areas will be constructed based on the requirements listed in “Regulation on Regular Storage of Wastes” issued on *Official Gazette* No:27533, Dated: 26/03/2010 (Amended: OG-24/06/2022-31876) and “Regulation on Waste Management” issued on *Official Gazette*, Dated: 02/04/2015, No: 29314 (Amended: OG-23/03/2017-30016).
			■ Considering the flooding risk, the following engineering studies were taken into account during the project design phase.
			  ■ By adding the reinforced concrete structure under the fences, the safety of the work site improved by increasing the height of the security fence, and the site was protected from flood and surface water.
			  ■ The foundation of the inverter station was raised 60 cm from the ground level against the risk of water rising.
			  ■ The infrastructure of the inverter station is designed in such a way that the surface and storm water infiltration will be prevented, and water is collected in the water collection -pit -constructed -on the ground level of the station and discharged with the help of a pump.
			  ■ The manhole cover located at the entrance of the foundation of the inverter station is manufactured as leakproof.
				■ Incident/accident reports
				■ Monitoring report results
				■ Visual Site inspection

Component	Phase	Project action	Mitigation measures	Monitoring measures
			▪ Waterproofing is provided with XPS Board and Membrane insulation materials inside the concrete foundation. ■ Bor Plain is the accumulation area of surface waters flowing from the north, northeast, east, southeast, and south, and the waters running off in rainy periods increase water levels in both vadose and phreatic zones. For this reason, it should be taken into consideration during the construction phase and appropriate solutions such as drainage channels or dewatering activities should be considered against possible water level increases during the design. ■ The General Directorate of State Hydraulic Works (DSI), and General Directorate of Water Management (SYGM) will be consulted regarding hydrological studies and surface water quality and any additional studies will be conducted upon their opinions prior to the construction phase based on the opinions of these institutions. ■ Safe Fueling and Gasoline Handling Guidelines will be developed in the construction areas. No fueling of vehicles or equipment will take place within excavated areas. If heavy equipment cannot be moved to appropriate fueling points, an impervious surface (such as a drip-tray) will be used for refueling this equipment to prevent accidental releases to groundwater aquifers. ■ Hazardous materials will not be stored in excavated areas and all handling of all hazardous materials will be in accordance with the Control of Substances Hazardous to Health Procedure. These procedures will be in line with Environmental, Health, and Safety (EHS) Guidelines: Environmental Hazardous Material Management (IFC, 2007). ■ Management of the construction site during periods of heavy rainfall will be considered. Exposed surfaces and stored materials will be covered if necessary to reduce the erosion of sediments into surface waters. ■ Treated domestic wastewater would be reused for local watering of vegetation, dust control or as a fire-fighting reserve in accordance with the standards defined in the Wastewater Treatment Plants Technical Procedures Communique if it is deemed feasible. In case wastewater reuse would be decided to be applied, a wastewater reuse plan will be prepared during the construction phase describing which types of wastewaters are suitable for each reuse application and effective control measures will be implemented to prevent misuse of reused water. ■ The specific items in the management plans will address the measures below related to surface water and protection: ▪ Design and management of spoil and soil storage areas and opening stores of construction materials to control sediment loss into runoff by minimizing the length and angle of slopes. ▪ Schemes to prevent new ground surface eruptions from rainfall erosion or to avoid construction activities during periods of heavy rainfall. ▪ Diversion of external ‘clean’ runoff around the construction area to prevent mixing of ‘clean’ and ‘dirty’ runoff and reduce the size of the required sediment basins. ▪ Conveyance of all 'dirty' runoff to the proposed sediment basins. ▪ Establishment of barrier fences and/or markings to determine the extent of the structure/work area that may be damaged. ▪ Limitation of exposure to the soil and the minimum amount of deterioration required for the construction.	

Component	Phase	Project action	Mitigation measures	Monitoring measures
			▪ Covering and protection of degraded fertile ground with soil, vegetation, mulch or erosion-resistant material. ▪ Collection and management of polluted water (if any generated by accidental leakages) in order to prevent mixing with any water body. ▪ Protection of existing drainage and irrigation channels, sediment barriers, green areas, protection strips, such as drains, and drainage and erosion control pits by taking appropriate measures. ▪ Collection and settlement of drainage from excavations to remove suspended materials prior to discharge in accordance with required permits. Construction of local perimeter drains around working areas to collect suspended runoff and direct it to a system of settlement basins before discharge following required permits, where practicable. ▪ Regular inspection and maintenance of all structures and facilities to ensure proper and efficient operation, especially after heavy rainfall. Removing sediment deposits and disposing of them either by spreading them on site (if uncontaminated) or at a suitably licensed facility. ▪ Training workers (including subcontractor workers) on spill response, use of containment and clean-up materials (spill kits).	
	Operation	Plant/infrastructure operation	▪ The project will comply with safety requirements to avoid leakages from hazardous chemicals/materials and liquids stored on-site. ▪ The temporary waste storage areas will be constructed based on the requirements listed in “Regulation on Regular Storage of Wastes” issued on *Official Gazette* No:27533, Dated: 26/03/2010 (Amended: OG-24/06/2022-31876) and “Regulation on Waste Management” issued on *Official Gazette*, Dated: 02/04/2015, No: 29314 (Amended: OG-23/03/2017-30016). ▪ Leak-proof quality septic tanks will be provided for the collection of the generated domestic wastewater. Collected wastewater will either be collected by vacuum trucks and disposed of at the nearest licensed WWTP as per the agreements/protocols to be executed with the related municipalities/licensed companies or to the main campsite package WWTPs.	▪ Incident/accident reports ▪ Monitoring report results ▪ Visual Site inspection
Hydrogeology and Groundwater	Construction	General engineering/construction works; Material Storage Accommodation and management of the workforce	▪ Treatment, storage, and disposal should be done according to regulatory requirements after performing the necessary analyses and obtaining relevant permits. ▪ Bor Plain is the accumulation area of surface waters flowing from the north, northeast, east, southeast, and south, and the waters running off in rainy periods increase water levels in both vadose and phreatic zones. For this reason, it should be taken into consideration during the construction phase and appropriate solutions such as drainage channels or dewatering activities should be considered against possible water level increases during the design. ▪ Regarding the risk of heavy rainfall and flooding, a reinforced concrete structure was added under the fences and the Inverter station to increase the height and protect the site from flooding and surface water. In addition, the infrastructure of the Inverter station was designed to prevent surface and rainwater infiltration, and impermeable insulation materials were selected for the concrete foundation. ▪ Safe Fueling and Gasoline Handling Guidelines will be developed in the construction areas. No fueling of vehicles or equipment will take place within excavated areas. If heavy equipment cannot be moved to appropriate fueling points, an impervious surface (such	▪ Groundwater monitoring results ▪ Incident/accident reports ▪ Monitoring report results ▪ Visual Site inspection

Component	Phase	Project action	Mitigation measures	Monitoring measures
			as a drip-tray) will be used for refueling this equipment to prevent accidental releases to groundwater aquifers. ■ Hazardous materials will not be stored in excavated areas and all handling of all hazardous materials will be in accordance with the Control of Substances Hazardous to Health Procedure. These procedures will be in line with Environmental, Health, and Safety (EHS) Guidelines: Environmental Hazardous Material Management (IFC, 2007). As an example, secondary containment structures will consist of berms, dikes, or walls capable of containing the larger 110 percent of the largest tank or 25 percent of the combined tank volumes in areas where hazardous materials are handled (e.g., fuel stores and loading areas, concrete mixing, hazardous material stores) to prevent hazardous materials entering the site drainage. ■ An Emergency Response Plan (ERP) will be developed in line with Environmental, Health, and Safety (EHS) Guidelines: General EHS guidelines (IFC, 2007) for handling spills of hazardous materials including fuels that will be handled during construction works. ■ The specific items in the management plans will address the measures below related to groundwater and protection: ▪ Preventing the discharge of untreated wastewater, residues or other waste into groundwater or surface water. ▪ Controlling and avoiding wastewater flows from any field activities (i.e., excavations, and vehicle/equipment washing). ▪ Collecting and managing contaminated water (if any generated as a result of accidental leakages) in order to prevent mixing with any water body and topsoil/soil pollution. ▪ Assuring the maintenance of vehicles and equipment (if necessary) in designated areas with impermeable surfaces (concrete floors, etc.) and if necessary, secondary containment systems. ▪ Making portable spill containment and clean-up materials (spill kits) available and easily accessible at the construction site, including instructions on how to use spill containment and clean-up materials. ▪ Training workers (including subcontractor workers) on spill response, use of containment and clean-up materials (spill kits). ▪ Providing adequate and properly maintained tanks, paved ground, spill containment materials and proper secondary containment systems with sufficient volume for fuel/oil storage and for the storage of other fluids and hazardous substances to prevent loss to the soil.	
	Operation	Plant/infrastructure operation	■ The project will comply with safety requirements to avoid leakages from hazardous chemicals/materials and liquids stored on-site. ■ The temporary waste storage areas will be constructed based on the requirements listed in “Regulation on Regular Storage of Wastes” issued on Official Gazette No:27533, Dated: 26/03/2010 (Amended: OG-24/06/2022-31876) and “Regulation on Waste Management” issued on Official Gazette, Dated: 02/04/2015, No: 29314 (Amended: OG-23/03/2017-30016). ■ Leak-proof quality septic tanks will be provided for the collection of the generated domestic wastewater. Collected wastewater will either be collected by vacuum trucks and disposed of at the nearest licensed WWTP as per the agreements/protocols to be executed with the related municipalities/licensed companies or to the main campsite package WWTPs.	■ Groundwater monitoring results ■ Incident/accident reports ■ Monitoring report results ■ Visual Site inspection

Component	Phase	Project action	Mitigation measures	Monitoring measures

Traffic	Construction	General engineering/construction works;
		
		Material Storage
			■ Referring to Stakeholder Engagement section of this ESIA Report, a continuous stakeholder engagement process and grievance mechanism will be in place:
			  ▪ to exchange information on the Project with the local community and other stakeholders; and
			  ▪ to record and respond any complaints and concerns raised by the local community members and other stakeholders.
			■ Considerations will be given to traffic volumes at the rush hours of the day and transportation of equipment and materials will be utilized at quieter periods to avoid increased congestion on the roads used by the local communities.
			■ It will be ensured that the roads will be made suitable for the heavy vehicle use by taking necessary permits and making necessary arrangements. In case of any damage on the roads, necessary maintenance works will be undertaken.
			■ Project site will be equipped with suitable and sufficient lighting to ensure sufficient visibility.
			■ At all times vehicles will be kept on designated site roads where established. Off-road driving will not be permitted other than emergency situations, or if no roads have been established yet.
			■ If reversing cannot be avoided at the work areas, necessary reversing procedures will be identified including installing reversing aids on vehicles, reversing sensors etc. Trained banksman will be used when reversing cannot be avoided.
			■ Parking areas will be designated with signs and reverse parking will be implemented for emergency situations.
			■ The routes to be used by pedestrians will be segregated from heavy vehicle routes where possible.
			■ The speed limits will be implemented.
			■ Seatbelts will be worn in vehicles and machinery when being operated.
			■ No vehicle/equipment/material will be allowed to enter work areas before obtaining approval from the security.
			■ Loading areas will be designed appropriately to prevent/minimize vehicle/pedestrian contact and property damages.
			■ All operators will be licensed/certified for the type of vehicle being driven and will undergo medical surveillance.
			■ Repair and maintenance of vehicles will be done by the authorized bodies.
			■ Fatigue and distraction procedures will be established considering the local legal requirements and the nature of the work.
			■ Project disclosure activities will include informing communities about the project traffic management controls, planned road closures, blasting activities and grievance mechanism. Collaboration with local communities and responsible authorities will be ensured to improve signage, visibility, road safety conditions especially near the roads and other locations where children may be present.
			■ Appropriate traffic signs, signals, lights and markings will be placed at the required areas to prevent potential accidents/incidents. Barriers will be placed at the required areas to protect both human health and assets.
				■ Visual inspection
				■ Monitoring report results
				■ Maintenance records of vehicles and equipment
				■ Grievances records
				■ Traffic accident records
				■ Training records on drivers

	Operation	Plant/infrastructure operation	■ Referring to Stakeholder Engagement section of this ESIA Report, a continuous stakeholder engagement process and grievance mechanism will be in place:
			  ▪ to exchange information on the Project with the local community and other stakeholders; and
			  ▪ to record and respond any complaints and concerns raised by the local community members and other stakeholders.
				■ Visual inspection
				■ Monitoring report results
				■ Maintenance records of vehicles and equipment
				■ Grievances records
				■ Traffic accident records
				■ Training records on drivers

Component	Phase	Project action	Mitigation measures	Monitoring measures
			■ Project site will be equipped with suitable and sufficient lighting to ensure sufficient visibility. ■ At all times vehicles will be kept on designated site roads where established. Off-road driving will not be permitted other than emergency situations, or if no roads have been established yet. ■ Parking areas will be designated with signs and reverse parking will be implemented for emergency situations. ■ The routes to be used by pedestrians will be segregated from vehicle routes where possible. ■ The speed limits will be implemented. ■ Seatbelts will be worn in vehicles and machinery when being operated. ■ No vehicle/equipment/material will be allowed to enter work areas before obtaining approval from the security. ■ All operators will be licensed/certified for the type of vehicle being driven and will undergo medical surveillance. ■ Repair and maintenance of vehicles will be done by the authorized bodies. ■ Project disclosure activities will include informing communities about the project traffic management controls, planned road closures, blasting activities and grievance mechanism. Collaboration with local communities and responsible authorities will be ensured to improve signage, visibility, road safety conditions especially near the roads and other locations where children may be present. ■ Appropriate traffic signs, signals, lights and markings will be placed at the required areas to prevent potential accidents/incidents. Barriers will be placed at the required areas to protect both human health and assets.	
Greenhouse Gas (GHG) Emissions	Construction & Operation	General engineering/construction works; Plant/infrastructure operation	■ The Best Available Techniques should be taken into consideration in Project design as much as possible. The applicability of the Best Available Techniques (BATs) developed within the European regulatory framework [i.e., Integrated Pollution Prevention and Control, “IPPC”, BAT Reference Documents (BREFs) according to the European Directive 2010/75/EU (IED)] should be evaluated and integrated into the Project design. ■ All employees will be provided climate, resource and energy efficiency awareness training. ■ The most efficient equipment in terms of fuel usage and effective operation will be chosen. Maintenance of all machinery and equipment will be periodically conducted to ensure efficient fuel use and effective operation as well. ■ Efficient resource and material use will be promoted through the development and implementation of a management plans to reduce direct and indirect GHG emissions due to the Project. Other aspects of resource efficiency regarding water usage are covered in Project Description and related impact assessment section. ■ No idling and out-of-scope operation of the machinery and equipment will be allowed. ■ Vegetation cover will not be disturbed if not necessary ■ In order to reduce the GHG emissions resulting from waste disposal processes, amount of wastes generated as a result of project actions will be minimized and generated wastes will be recycled accordingly. ■ During the closure phase, rehabilitation of land will help to recover lost carbon sink by converting the disturbed land to its original state as much as possible, which will act as a long-term mitigation measure.	■ Resource consumption records ■ Records on data resources invoices ■ Training records ■ Records on amount of generated wastes ■ Maintenance records of machinery and equipment

Component	Phase	Project action	Mitigation measures	Monitoring measures
Biological Components				
Biological Components	Construction	General engineering/construction works Material transportation Material storage	Avoidance measures have been considered particularly during the design of the facilities and include: ▪ minimization of the footprint of individual facilities; ▪ utilization of the existing modified habitat for placement of temporary facilities was prioritized as much as possible. 1) vegetation disturbance: ▪ limiting natural vegetation disturbance to the minimum necessary during construction works. For this purpose, limits of temporary and permanent facilities will be clearly signed in order to reduce the risk of footprint creep; ▪ in order to minimize the mortality of wildlife species, biological surveys (pre-construction surveys) will be implemented to identify and eventually relocate fauna species. An expert wildlife ecologist will perform pre-construction surveys in the areas where temporary and permanent facilities will be located (not earlier than 7 days before). The survey will focus on fauna species with limited mobility (e.g., mammals and reptiles) that cannot move ahead of construction. If any of these species are observed, they will be collected by the ecologist and translocated to undisturbed but similar sites within the AoI. – Reptiles will be caught and moved to a suitable receptor site, no smaller than the capture site and containing the same habitat characteristics and prey availability, at a minimum distance of 50 m from the Project footprint during construction phase. If essential works are required in winter, when tortoise are hibernating, then the works area should be checked carefully for hibernation burrows. If a reptile is found during such works and it is hibernating, it should be carefully moved to an alternative part of the site that will remain undisturbed. If this is not possible, then the animal should be taken in to care until it can be released on site, the following spring. – The monitoring of the activity of the small mammal species identified as species of conservation concern, in particular of the Brandt's Hamster (*Mesocricetus brandti*, NT), the Anatolian Vole (*Microtus anatolicus*, DD and Restricted Range), and the Anatolian Ground Squirrel (*Spermophilus xanthoprymnus*, NT) will be performed, through the use of endoscopic cameras located within their burrows. If any living specimen is observed and essential works that involve breaking ground are required in the areas where burrows are present, a gradual increase of the level of disturbance over a few days (at least 4 consecutive days) will be implemented, in order to allow for the animal to	▪ Monitoring reports results of invasive flora species within and around the construction site ▪ Observations records of fauna species, and in particular of the identified reptile species of conservation concern (Testudo graeca) and of the identified terrestrial mammal species of conservation concern (Mesocricetus brandti, Microtus anatolicus, Spermophilus xanthoprymnus, and Vormela peregusna), within and around the AoI ▪ Records of accidents involving wildlife ▪ Records of observation of live animal or carcasses along the access road or on the construction site

Component	Phase	Project action	Mitigation measures	Monitoring measures
			autonomously leave the burrow before it is fully excavated (e.g., day 1 machinery and equipment bought to the working area, day 2 manual excavation, day 3 mechanical excavation in the vicinity of the borrow). ▪ vehicle movement will be restricted to the Project Site and the existing roads that connect the construction sites with the surrounding areas. Off road driving will be prohibited in order to avoid any unnecessary disturbance of natural vegetation. 2) emission of noise: ▪ night works will be avoided (from 8 pm to 6 am) to reduce impacts on nocturnal fauna species; ▪ limiting the number and the speed of vehicle movements along the existing access roads. 3) emission of particulate matter: ▪ Dust deriving from construction material handling will be minimized by using covers and/or control equipment (water suppression, bag house, or cyclone) and increasing the moisture content by water spraying. ▪ Speed limit for all vehicles will be implemented so as not to generate dust emissions, and all trucks will be properly maintained at all times. ▪ Internal roads will be adequately compacted, maintained, and sprayed with water if needed, to minimize dust from vehicle movements. If water spraying is deemed insufficient, other means of surface treatment (e.g., hygroscopic media, such as calcium chloride, and soil natural–chemical binding agents) for unpaved internal roads will be implemented, by using a sprinkler system or a “water-mist cannon”. 4) increase of traffic: ▪ install speed limits and animal crossing signs on the access roads. ▪ avoid the accumulation of stagnant water and organic waste within the construction site and on the roads, that could attract wildlife. ▪ if fauna species are encountered employees and contractors will wait until it moves on by itself or they will ask the assistance of the Environmental technician for its safe removal and relocation in a suitable environment. ▪ awareness among employees and contractors working on site about the protected species/habitats potentially present in the area will be developed, in order to ensure constant monitoring and promote actions to be taken if wildlife is encountered. 5) accidental introduction and spreading of alien species:	

Component	Phase	Project action	Mitigation measures	Monitoring measures
			▪ the use of non-native flora species, and especially of species classified as invasive alien species must be avoided during rehabilitation/restoration works. ▪ if the spreading of invasive species is observed, an appropriate eradication program will be developed and implemented. Areas cleared during construction for temporary use will be restored, as soon as possible, with the goal of producing a stable vegetative cover to minimize erosion, dust deposition and spreading of invasive alien species, and the aim of re-establish the original habitat with a positive impact on biodiversity. Only plants that are native to the region will be used for restoration and habitat rehabilitation. Seeding and planting of grass and shrub species typical of the local flora will be implemented to ensure optimal ground cover. The use of autochthonous adult plants and/or of seeds collected at the shortest distance possible from the restoration sites will be of fundamental importance in order to maximize the success of the translocation operations (Abeli & Dixon, 2016[3]).	
	Operation	Plant/infrastructure operation	Avoidance measures have been considered particularly during the design of the facilities and include: ▪ minimisation of the footprint of individual facilities. ▪ utilization of the existing modified habitat for placement of temporary facilities was prioritized as much as possible. 1) <u>Presence of permanent infrastructures</u>: ▪ The areas occupied by the new permanent infrastructures will be fenced but modification to fencing will be made in order to minimize the barrier effect. Modifications to fencing can involve maintaining gaps between the base of the fence and the These gaps will occur at regular intervals along the fence line, with a frequency of 1 gap every 100 m. In addition, each single gap could have a height of 10 cm and a width of 1 m. ▪ Non-reflective coating can be applied to the panels to minimize reflection, which can attract aquatic insects and possibly birds, as it mimics reflective surfaces of waterbodies. ▪ Flora and fauna specific monitoring campaigns within and without the areas occupied by the new permanent infrastructures will be implemented (see Section 7.3.2.4.). ▪ vehicle movement will be restricted to the existing roads that connect the operation sites with the surrounding areas. Off road driving will be prohibited in order to avoid any unnecessary disturbance of natural vegetation.	▪ Floristic and vegetational monitoring report results. ▪ Monitoring results of invasive flora species in the areas under the photovoltaic panels ▪ Terrestrial fauna monitoring results ▪ Records of accidents involving wildlife or the observation of live animal or carcasses along the permanent access roads or in the areas occupied by permanent infrastructures

[3] Abeli T. & Dixon K. (2016). Translocation ecology: the role of ecological sciences in plant translocation. Plant Ecology. 217. 10.1007/s11258-016-0575-z.

Component	Phase	Project action	Mitigation measures	Monitoring measures
			2) Emission of noise: No additional minimization measures are deemed necessary in addition to those included in Chapter 7.1.2. 3) Emission of light: ▪ it is recommended to keep the number of light sources to the minimum; ▪ preferred types of light in exterior lighting (e.g.: lights on site due to security reasons) applications are: - low pressure sodium lamps (SOX); - light emitting diodes (LEDs): light source of choice, emitted more directional, warmer colour temperatures (closer to 3000°K); - light triggered by presence detectors, and lights oriented to the ground. ▪ these types of lights should be avoided: – mercury lamps (MBF): bluish-white lamps (attract insects and tolerant bat species); – high pressure sodium lamps (SON): brighter pinkish-yellow lamps, used as road lighting. 4) Introduction of alien species ▪ the use of non-native flora species, and especially of species classified as invasive alien species must be avoided during rehabilitation/restoration works. ▪ if the spreading of invasive species is observed, an appropriate eradication program will be developed and implemented.	

Environmental and Social Management System

The ESMS of the Project is developed and under continuous improvement to ensure the appropriate management of environmental and social risks to meet the objectives set by existing Kalyon Enerji policies and directives regarding E&S. Environmental and social management system at all phases is required to meet national, international standards, best practices, and Projects' documents and requirements. Referring to the integrated policies, there are targets to achieve the Projects with zero waste, zero incidents, and full respect for humans including vulnerable groups.

Nine elements of ESMS help to assess, control, and continually improve the E&S performance, The Project ESMP has to comply with these elements.

Figure 11: Map Showing Nearest Settlements to the Project Site Elements of ESMS (IFC, 2015)

The E&S mitigation measures defined in the ESIA process were transposed into a Commitments Register serving as a tool which informs the ESMP as well as the associated ESMS planning and processes to be implemented at the various levels of the Project organization to ensure that the Project requirements, regulations, and standards are met.

Kalyon Enerji has developed a set of ESMPs and procedures consistent with their policies and commitments, addressing the environmental and social impacts and relevant mitigation measures identified in the ESIA for each component. The full set of ESMPs that are prepared and will be implemented for fulfilling the commitments undertaken by the Project are presented in the table below with the relevant IFC PSs that each will contribute to comply with.

Table 2: ESMPs

Relevant IFC PS	Plans / Procedures
IFC PS1 5-24: Assessment and Management of Environmental and Social Risks and Impacts	■ ESMP - (this chapter) ■ Stakeholder Engagement Plan
IFC PS2: Labour and Working Conditions	■ Human Rights Management Plan ■ Camp Site and Offsite Accommodation Management Plan ■ Labour Management Plan ■ Contractor Management Plan ■ Supplier Management Plan

Relevant IFC PS	Plans / Procedures
IFC PS3: Resource Efficiency and Pollution Prevention IFC EHS Guidelines	■ Resource Efficiency Management Plan ■ Pollution Prevention Plan (e.g., air, noise, wastewater, soil, groundwater contamination, hazardous material management, etc.) ■ Waste Management Plan ■ Soil Management and Erosion Control Plan ■ Hazardous Material Management Plan
IFC PS4: Community Health, Safety, and Security IFC EHS Guidelines	■ Traffic Management Plan ■ Community Health and Safety Management Plan ■ Security Management Plan ■ Emergency Preparedness and Response Plan
IFC PS5: Land Acquisition and Involuntary Resettlement	■ Not applicable
IFC PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	■ Biodiversity Management Plan
IFC PS7: Indigenous Peoples	■ Not applicable
IFC PS8: Cultural Heritage	■ Cultural Heritage Management Plan and Chance Find Procedure

The ESMPs will be implemented:

- across the Project organization, including, EPC, its sub-contractors, and primary suppliers over which the Client has control or influence.
- inside the Project Area of Influence including the associated facilities (as defined by IFC PS1: “facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable”).

The ESMPs contain the following components:

- Objectives of the document
- Reference to relevant legal requirements
- Roles and responsibilities for implementation
- Links to other management plans, as necessary
- List of management and mitigation measures
- Monitoring and reporting requirements
- Qualitative or quantitative Key Performance Indicators (KPIs) and measures for assessing the effectiveness of the mitigation measures identified during the impact assessment process
- Training and awareness requirements, as needed
- Inspections, audits, and reviews.

Each management plan has a similar structure, but the level of detail and complexity is appropriate to the expected impacts and risks of the Project identified in the ESIA. The mitigation measures identified in the relevant sections of the ESIA are included in each management plan, which will be disclosed to stakeholders in accordance with the SEP.

The ESMPs will be shared with EPC and subcontractors to ensure they develop their own equivalent management plans, procedures, and work instructions that align with the ESMP. Additional mitigation measures specific to their activities will be included as necessary.

4.0 STAKEHOLDER ENGAGEMENT

A Stakeholder Engagement Plan (SEP) is prepared for the Project within the scope of the Environmental and Social Impact Assessment as a public document. The aim of SEP is to organise, record and formalise all engagement and consultation processes with the various stakeholders and corporate their views and concerns and addressed in them in the entire Project life.

Engagement and Disclosure Process

According to IFC PS1, it is necessary to have effective stakeholder engagement to prevent and reduce social risks and to ensure that the Project maintains a long-term social license to operate. Stakeholder engagement plays a crucial role in establishing strong, positive, and responsive relationships, which are essential for effectively managing the environmental and social risks and impacts associated with a project.

The main objective of effective stakeholder engagement is to provide stakeholders with relevant information about the Project's potential environmental and social impacts through transparent disclosure. This helps ensure that stakeholders have accurate perceptions of the proposed development. It also involves consulting with stakeholders to gather their feedback and opinions, as well as providing a mechanism for addressing any concerns or complaints they may have. Stakeholders can be either external or internal to the Client (presumably the organizations involved in the project) and can include individuals or groups who:

- Directly or indirectly affected by the Project,
- Interested in the Project and its activities,
- Able to influence the Project and the expected results.

The stakeholder engagement process helps to:

- identify and involve all stakeholders potentially affected by the Project,
- ensure a good understanding of the Project activities and potential impacts/benefits,
- identify issues early in the Project cycle that may pose risks to the Project or its stakeholders,
- ensure that mitigation measures are appropriate (implementable, effective, and efficient),
- establish a system for long-term and mutual communication between the Project and stakeholders that benefits all parties.

The stakeholder identification process has been performed by the Client supported by Project consultants during direct meetings with authorities, key stakeholders, and representatives of local communities. Detailed information on stakeholder engagement activities performed and planned are presented in the SEP and included:

- Publication of planned activity (which is the legal definition for the project) through regional and local newspapers and the Project website,

- Public hearings in a frame of public discussion procedure,
- Consultations with public authorities at national, regional, and local levels.

The SEP outlines a systematic approach to stakeholder engagement to support the Client in developing and maintaining strong and constructive relationships with the stakeholders and in addressing their concerns about the Project. The SEP and its implementation fall under the Client's responsibility. In particular, the SEP for the construction phase includes:

- provisions for the disclosure to the affected communities of relevant information on:
  - The purpose, nature and scale of the Project,
  - The duration of proposed Project activities,
  - Potential risks/impacts and relevant mitigation measures,
  - The stakeholder engagement process envisaged going forward and,
  - A Grievance Mechanism is consistent with IFC PS1 requirements scaled to the risks and impacts of the project.
- Provisions for a stakeholders' consultation and participation process appropriate for the potentially affected communities, their decision-making process and the need to reach/include disadvantaged or vulnerable groups,
- Documents to demonstrate how the feedback from stakeholders' consultation and participation has been included in the Client management decision-making process and used to identify specific mitigation measures, as needed,
- The provision of periodic reports to the potentially affected communities to update them on progresses of the implementation of the ESMPs, also addressing eventual grievances received,
- an internal Grievance Mechanism for all employees and contractors and,
- an external Grievance Mechanism with a procedure providing a framework for receiving, recording, and facilitating the resolution of concerns raised by affected communities.

The SEP is considered a living document and will be regularly monitored, reviewed and updated by the Client throughout all stages of the Project implementation to ensure:

- it remains fit for the purpose at each phase of the Project,
- it addresses the outcomes of stakeholders' consultation activities,
- it addresses the grievances received from stakeholders.

The internal communication amongst the various functions and roles and the different Project parties is addressed in the ESMP.

A team was assigned for engagement activities and the grievance mechanism management for the construction phase of the Project.

Project website: kalyonenerji.com

Address: Ehlibeyt Mahallesi Mevlana Bulvarı No:201 Balgat-Çankaya/ANKARA

Hotline: +90 536 271 81 **13**

e-mail: enerji-iletisim@kalyonenerji.com

For the grievances and the requests related with the Project please contact: Site Social Impact Specialist and CLO Mehmet Yüksekyayla myuksekyayla@kalyonholding.com.

For the operation phase of the Project, a separate team will be assigned to perform the stakeholder engagement activities. These activities include identification of stakeholders, update stakeholder list, disclose Project related information, conduct consultation with the target stakeholder groups with the identified tools, manage the external grievances and report to top management periodically.

5.0 GRIEVANCE MECHANISM

5.1 Internal Grievance Mechanism

An internal grievance mechanism has been developed for the Project. All direct and indirect Project workers will follow the procedure. The procedure defines grievances as a statement of dissatisfaction over any condition that allegedly harms the employee. A grievance may relate to matters involving internal communication, responsibilities abuse, abuse in the authority line, race, colour, ancestry, national origin, religion, age, sex, sexual orientation, gender identity, sexual harassment, or disability status.

In case requested, all grievance holders will have the right to remain anonymous and maintain their confidentiality. The client will not disclose any grievance holder's credentials without ensuring their consent first. If such consent is given, only the managers and personnel related to that specific grievance will be informed.

5.2 External Grievance Mechanism

An external grievance mechanism of the Client has been developed for the Project. The external grievance mechanism is a part of the management system, and it is responsive to any concerns and complaints, particularly from affected stakeholders and communities. Special care will be focused on training the designated staff involved in the management of the grievance mechanism. The overarching aim of the grievance mechanism is to provide all stakeholders with the opportunity to obtain information about the Client's activities and facilities, deliver their complaints and requests in a structured and formal manner and receive prompt, fair and effective responses.

Any comments or concerns will be brought to the Company's attention verbally or in writing (by post or e-mail) or by filling in a grievance form. The grievance form will be made available on the Company website, at the Project site, at the Mukhtar's office, alongside a description of the grievance mechanism. Grievance forms can then be submitted to the contact points. All grievances will be:

- Acknowledged within seven working days after receipt; and
- Responded no later than within 30 working days after receipt.

Specifically, nominated, and trained members of staff will record grievance information in a grievance register the information in the grievance register will include the Stakeholder name and contact details and details of the grievance and how and when it was submitted, acknowledged, responded to and closed out.

The grievance mechanism is widely announced to the public with stakeholder meetings held for project-affected communities. Additional meetings will be organized to target women Project Affected People (PAPs) and vulnerable groups for sharing information on grievance mechanism that also allows anonymous grievances.

Gender equality is observed by the Client. There is a woman environmental engineer in the Project. She will deal with the complaints and demands of women in the Project area. The grievances will be reviewed by the team according to the Project's human rights and grievance mechanism.

Stakeholder request and grievance form of the Project is presented in Appendix A and ESIA Feedback Form is presented in Appendix B

APPENDIX A

Stakeholder Request and Grievance Form

kalyon enerji	PAYDAŞ İLETİŞİM FORMU	Doküman No: Yayın Tarihi: 21.09.2020 Rev No: 00 Rev. Tarihi: -

İLETİŞİME GEÇEN KİŞİNİN BİLGİLERİ (İsminizin gizli kalmasını tercih ediyorsanız lütfen boş bırakın. Bildirimleriniz Proje Yönetimi tarafından aynı şekilde değerlendirilecektir.)

Tarih:

İrtibat Bilgisi: (Nasıl irtibata geçilmesini istiyorsanız buna göre gerekli bilgileri veriniz)

Posta yolu ile .....

Telefonla .....

E-posta yolu ile.....

Tepkinizi belirtin: □ Yorum □ Şikayet **Kaydeden:** □ Yorum/ şikayeti sunan kişi □ Diğer (lütfen kim olduğunu belirtin)	**Doldurulmuş İletişim formu suretinin alındığını teyit eden imza** .....

PROJE HAKKINDAKİ YORUMLARINIZ (Gerekirse sayfanın arka kısmından devem edebilirsiniz)

YORUM/ ŞİKAYETİNİZ HAKKINDA BİLGİLER

Yorum/Şikayetinizi tanımlayın (Gerekirse sayfanın arka kısmından devem edebilirsiniz)

Yorum/Şikayetle İlgili Olay Tarihi

□ Tek seferli olay / şikayet (Tarih: .....)

□ Bir defadan fazla mı oldu (Kaç kez? .....)

□ Devam ediyor (Problem halen yaşanıyor)

Problemi çözümlemek için ne öneriyorsunuz? (Gerekirse sayfanın arka kısmından devem edebilirsiniz)

Bu kısım Proje Yönetimi tarafından doldurulacaktır.

YORUM DURUMU		
Yorum Kayıt (E/H)	**Sunum tarihi:**	**Kaydeden:**
Gerekli Tepki (E/H)	**Müdahale tarihi:**	
ŞİKAYETÇİ DURUMU		
Şikayet Kayıt (E/H)	**Sunum tarihi:**	**Kaydeden:**
Cevap Gönderim Tarihi:	**Şikayet kapatıldı (E/H):**	**Kapama tarihi ve imzası:**
İrtibat Numarası	**0536 271 81 13**	

APPENDIX B

ESIA Feedback Form

You can write your questions and opinions about the Environmental and Social Impact Assessment study prepared Project to the following addresses.

ESIA Feedback Form	
Name-Surname	
Address	
Phone Number	
Date	
Concerns, expectations, questions or complaints on the ESIA report	

wsp.com