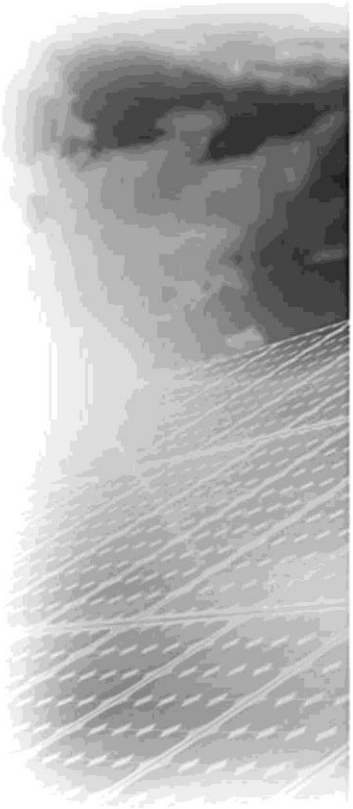
BAYOSB
BAĞYURDU ORGANİZE SANAYİ BÖLGESİ



ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

BAĞYURDU ORGANIZED INDUSTRIAL ZONE 1.6 MW SOLAR POWER PLANT, 2500kVA TRANSFORMER AND FAST CHARGING STATION INSTALLATION PROJECT

ÇEDFEM

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ABBREVIATIONS

AC	Alternating Current
BAYOSB	Bağyurdu Organized Industrial Zone
DC	Direct Current
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EHS	Environment Health and Safety
EIP	Eco Industrial Park
EMRA	Energy Market Regulatory Authority
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESPO	European Sea Ports Organization
EU	European Union
FTA	Federal Transit Administration
HSMS	Health and Safety Management System
IA	Impact Area
IFC	International Financial Corporation
ILO	International Labor Organization
MoIT	Ministry of Industry and Technology
OG	Official Gazette
OHS	Occupational Health and Safety
OIZ	Organized Industrial Zone
PM	Particulate Matter
PS	Performance Standard
REPEMS	Renewable Energy Projects Evaluation Monitoring System
ROCIAP	Regulation on Control of Industrial Air Pollution
SEP	Stakeholder Engagement Plan
SPP	Solar Power Plant
TEİAŞ	Turkish Electricity Transmission Corporation
TurkStat	Turkish Statistical Institute
UCTAE	Union of Chambers of Turkish Architects and Engineers
UN	The United Nations
WB	World Bank
WBG	World Bank Group
WDA	Wildlife Development Area
WHO	World Health Organization

EXECUTIVE SUMMARY

The danger of depletion of natural resources and global warming brings the concepts of sustainability and renewable energy to forefront with each passing day.

Bağyurdu Organized Industrial Zone (OIZ) plans to establish a Solar Power Plant on its own parcel of land within the boundaries of the OIZ in order to provide some of the energy it needs from renewable energy.

The Solar Power Plant planned to be established at Bağyurdu OIZ, 110 Block, 1 Parcel will have a capacity of 1.6 MW. As an integral part of the project, it is planned to establish a 2500 kVA Substation.

In addition to that, in order to serve the industrialists in the region and to encourage the use of electric vehicles, it is planned to establish an electric vehicle fast charging station on 104 block and 27 parcels within the OIZ.

This Environmental and Social Management Plan (ESMP) identifies the potential risks and impacts that may arise during construction and operation phases of the Project and proposes appropriate mitigation measures to effectively address these risks and impacts. As part of the construction phase; ESMP has been prepared in order to determine the environmental and social impacts that are likely to occur during the preparation of the area where the SPP project is planned, the driving of solar panel legs into the ground, the installation of panels, cabling operations, transformer and fast charging station construction and also to determine the measures to be taken to prevent or mitigate these impacts.

The project area, which is currently an industrial parcel, does not have any flora and fauna on, therefore it is thought that there will be no soil loss or flora and fauna loss as only land arrangement will be made.

The fact that the panel legs will be driven into the ground will not have a negative impact in terms of excavation and soil loss, but it is likely to cause noise and vibration during the driving process. This phase will involve daytime work and the use of protective equipment as well as monitoring any impacts on surrounding landscapes.

Waste, such as packaging and cable waste, is likely to be generated during panel assembly and cabling stages. In this context, waste management will be implemented by sorting waste and sending it to licensed facilities.

There is no settlement around the project area, in which case it will not have an impact during the construction phase. No negative impact is expected during the operation phase as it is an environmentally friendly project.

Bağyurdu OIZ is located on the edge of İzmir and Manisa highways. Therefore, there will be no negative traffic impact on settlements for any transportation to the project area. Uninspected vehicles will not be used in order to be able to control vehicle emissions.

Modeling and calculations have been carried out to estimate potential emission generation from vehicles and dust generation during the construction phase.

Stakeholders likely to be affected and/or influenced by the Project have been identified and potential impacts on them have been assessed. In this context, stakeholders were informed about the project, their opinions and suggestions were received, and a grievance mechanism was established during the project process. A Stakeholder Engagement Plan (SEP) has been prepared. No socially negative impact has been identified.

During the operation period, the risks and impacts are expected to be low in magnitude, as the access of people to the area will be prevented by wire fence, there will be no working personnel, and absorbent panels will be used to avoid impacts on birds. It is expected that impacts during operation will mainly occur during maintenance and repair. The water to be used to wash the panels and the waste generated in order to change the panels are possible effects. As the panel washing process will be in the form of spraying and brushing, no wastewater will be generated, and good waste management practices will be implemented by sorting waste and sending it to licensed facilities.

Procedures and control plans will be prepared and monitoring will be carried out in order to reduce the impacts during the construction and operation phases.

ESMP is considered as living document that requires regular reviews and update with respect to the potential changes in environmental and social conditions as the project progresses. The Bağyurdu OIZ together with its Contractor are responsible for the implementation of the ESMP. The Bağyurdu OIZ is committed to follow WB ESSs as well as the guidelines of the World Bank Group (Environmental, Health and Safety (EHS) Guidelines).

It is thought that the project will have positive effects as the energy need will be provided from renewable energy sources and it will be an incentive for the industrialists of the region and other OIZs.

1.INTRODUCTION

1.1 General Information

Since the 1960s, Organized Industrial Zones (OIZs) have played an important role in Turkey's transformation into a production-based economy. Starting with the establishment of the first Organized Industrial Zone in Turkey in 1961 and now numbering 345 in 81 provinces, OIZs provide employment for approximately 2,000,000 people in 55,000 enterprises. In addition to contributing to industrialization and technological developments, OIZs have an important place in country development and job creation.

Factors such as global warming and depletion of natural resources have created a growing trend towards greening existing industrial areas and establishing new Green OIZs.

The Green OIZ concept, which includes content such as increasing resource efficiency, zero waste and pollution reduction, efficient use (water, energy, infrastructure and natural resources), use of renewable energy, industrial symbiosis and development of the circular economy concept, will contribute to climate change targets.

The World Bank Group (WBG) provides credit support for project ideas developed to support OIZ basic infrastructure investments, green infrastructure investments, innovation centers investments using green solutions as much as possible.

The World Bank-financed "Türkiye Organized Industrial Zones Project" aims to increase the efficiency, environmental sustainability and competitiveness of selected OIZs, while setting an example for other OIZs.

"1.6 MWe Solar Power Plant and 2500 kVA Transformer and Fast Charging Station Installation Project" will be established within Bağyurdu OIZ as a sub-project of “Türkiye Organized Industrial Zones Project”, which is is carried out in cooperation with the Ministry of Industry and Technology and the World Bank.

Bağyurdu OIZ carries out activities in line with eco-production and Eco Industrial Park (EEP) approach both in terms of its own OIZ management and with the companies within it. The ongoing "Company-Based Analysis of Environmental Criteria for Bağyurdu OIZ Green OIZ and Road Map Project" is one of these projects.

The scope of this project, 1.6 MWe Solar Power Plant and 2500 kVA Transformer and to install a Fast Charging Station” is to provide some of the energy needed in Bağyurdu OIZ from renewable energy sources.

Since the installation of the solar power plant (SPP) within the scope of the Project is included in the Annex-2 List Article 45 (Solar power plants with a project area of 2 hectares or more or with an installed capacity of over 1 MWe) of the repealed EIA Regulation dated 25.11.2014 and numbered 29186, with the amendment made on 26.05.2017, the Project Introduction File was prepared and an "EIA NOT REQUIRED" decision was obtained from Izmir Provincial Directorate of Environment, Urbanization and Climate Change with decision number 48657465 dated 04.04.2022 (Annex-3: EIA Certificate). Fast Charging Stations are not covered by the EIA Regulation.

1.2 Purpose

The ESMP document aims to (i) determine the social and environmental risks and impacts that are likely to occur during the construction and operation phases of the Project, (ii) evaluate these impacts, and (iii) take actions to mitigate and/or prevent negative impacts.

Within the scope of the ESMP, information was provided regarding the work items planned to be fulfilled in the contract packages, the methodologies to be applied and the working areas, determining the social and environmental impacts that are likely to occur during both construction and operation phases. Potential impacts occurring during all phases of contract packages were described, and measures were taken to prevent impacts and/or minimize negative impacts. To prevent and minimize the impacts described in this ESMP, the responsible project stakeholders were identified, and it was intended to monitor and control the impacts determined in ESMP during the implementation of the Project.

In this ESMP, environmental risks and impacts are assessed in terms of potential impacts to air, water and soil in the physical environment and potential impacts to the biological environment. Measurements, analyzes and models and legal requirements are taken as basis in determining the risks and impacts. Regarding the social impacts, different categories of stakeholders, that are likely to be affected by the project and may have an impact on the project, are identified. Factors such as legal compliance, socio-economic effects, traffic and visual pollution are taken into account.

The ESMP is to outline the measures to be taken by the Contractor during construction phase and by the BAYOSB during operation phase, and to ensure that the Project will:

- Comply with all applicable laws, implementing regulations, financing agency obligations (World Bank), permit obligations and good international industry practice (GIIP);
- Not cause undue harm or damage to natural resources, life (including human and wildlife), property or sites, structures or objects of historical or archaeological significance;
- Not to harm the safety of employees and local people during the construction and operation phases:
- Shape the overall program for environmental and social management throughout the construction and operation phases of the project;
- Respect the nearby community and fulfill commitments made in information disclosure and consultation activities; and
- Provide a framework for contractors to implement environmental and social (E&S), OHS, labor and safety measures on site during construction.

1.3 Scope

This ESMP has been prepared within the scope of managing the environmental and social risks and impacts of the “Electric Vehicle Fast Charging Station Project with 1.6 MWe Solar Power Plant, 2500 kVA Transformer” , which is planned to be realized in two separate parcels within the borders of İzmir province, Kemalpaşa district, Bağyurdu OIZ.

The ESMP applies to project activities associated with the Project construction sites and the local community, including the Solar Panel Installation Site, Transformer unit and Charging Station Site, access roads to the Project site, transportation and delivery of materials to and from the site.

The potential risks and impacts of the Project during the pre-construction, construction and operation phases will be managed by this ESMP. The Contractor is responsible for developing an Environmental

and Social Management System (ESMS) as well as Health and Safety Management Systems (HSMS) and all supporting site procedures and method statements to implement the requirements of this ESMP. The Contractor is responsible for ensuring that all subcontractors comply with the Project specific ESMP and the Contractor's ESMS and support thematic plans.

2.REGULATORY AND INSTITUTIONAL FRAMEWORK

2.1 National Requirements

National laws that govern the protection and conservation of the environment, resources and cultural and natural assets, the prevention and control of pollution, the implementation of measures for the prevention of pollution, health and safety, labor issues and operation of OIZs are listed as follows:

- Environmental Law No. 2872 OG Dated 11.08.1983 and Numbered 18132
- Forest Law No. 6831 OG Dated 8.09.1956 and Numbered 9402
- Law No. 167 on Groundwater Law Dated 23.12.1960 and Numbered 10688 OG
- Law No. 2863 on the Protection of Cultural and Natural Assets OG Dated 23.07.1983 and Numbered 18113
- Labor Law No. 4857 OG Dated 10.06.2003 and Numbered 25134
- Law No. 6331 on Occupational Health and Safety, OG Dated 20.06.2012 and Numbered 28339
- Law No. 5403 on Soil Conservation and Land Use OG Dated 19.07.2005 and Numbered 25880
- Law No. 5393 on Municipalities OG Dated 13.07.2005 and Numbered 25874
- Law No. 5216 on Metropolitan Municipalities OG Dated 23.07.2004 and Numbered 25531
- Law No. 2873 on National Parks OG Dated 11.08.1983 and Numbered 18132
- Law No. 1593 on Public Hygiene OG Dated 06.05.1930 and Numbered 1489
- Law No. 5543 on Settlement Dated 26.09.2006 and Numbered 26301 OG
- Law No. 5627 on Energy Efficiency OG Dated 02.05.2007 and Numbered 26510
- Law No. 5510 on Social Security and General Health Insurance OG Dated 16.06.2006 and Numbered26200
- Law No. 4562 on Organized Industrial Zones OG Dated 15.04.2000 and Numbered 24021

The regulations listed below set out the management principles, rules, standards, preventive and protective measures, as well as the permits required to achieve the objectives set by the Environmental Law and other complementary laws related to the Project. The implementation of the policies, standards and measures required by these laws and regulations are registered and committed during the national EIA process. The national EIA process is governed by the EIA Regulation published in the Official Gazette dated 29.07.2022 and numbered 31907).

The Environmental Permit and License Regulation (Official Gazette date: 25 November 2014 and Number: 29186) guarantees the management of the environmental impacts of the project, and the Environmental Inspection Regulation (Official Gazette date: 21 November 2008 and 27061) guarantees the monitoring of these environmental impacts.

The management of matters related to labor and working conditions is carried out in accordance with the Labor Law (Law No. 4857, Approval Date: 2003) published by the Ministry of Labor and Social Security and the relevant regulations published according to this law. Regulations applicable to the implementation of the Project and their implications are presented in Table 1 below.

Table 1 National Requirements (Regulations)

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project
Water Pollution Control Regulation	12/31/2004-01/10/2016	25687 29589	• Management and discharge of wastewater generated during construction and operation.
Waste Management Regulation	04/02/2015	29314	• Management and disposal of waste generated during construction and operation phase • Hazardous waste management
Regulation on Landfilling of Wastes	03/26/2010 03/11/2015	27533 29292	• Disposal of waste
Waste Oil Management Regulation	07/30/2008 11/05/2013	26952 28812	• Management of waste oils generated during construction and operation phases
Regulation on Control of Vegetable Waste Oils	06/06/2015	29378	• Management of waste vegetable oil generated during construction and operation phases
Packaging Waste Control Regulation	08/24/2011	28035	• Management of packaging waste generated during construction and operation phases
Regulation on Control of Medical Waste	01/25/2017	29959	• Management of medical waste generated during construction and operation phases
Regulation on the Control of End-of-Life Tires	11/25/2006 03/11/2015	26357 29292	• Waste management of End-of-Life Tires generated during construction and operation phases
Regulation on Control of Waste Batteries and Accumulators	08/31/2004 12/23/2014	25569 29214	• Management of battery and accumulator wastes produced during construction and operation phases
Regulation on Noise Emission in the Environment Generated by Outdoor Equipment	12/30/2006	26392	• Management of noise sources used during construction and operation phases. • Noise limits and standards
Environmental Noise Control Regulation	11/30/2022	32029	• Ambient noise management • Ambient noise standards • Modeling requirement
Regulation on Control of Industrial Air Pollution	07/03/2009 12/20/2014	27277 29211	• Management of air emission sources during construction and operation phases. • Dust emission control during construction phase • Emission Monitoring
Regulation on Evaluation and Management of Air Quality	06/06/2008	26898	• Management of ambient air quality • Ambient air quality standards • Modeling Requirement
Regulation on Soil Pollution Control and Point Source Contaminated Sites	6/8/2010-07/11/2013	27605 28704	• Soil contamination risks during construction and operation phases • Remediation of contaminated sites
Regulation on Control of Excavation Soil, Construction and Destruction Wastes	03/18/2004	25406	• Transportation and disposal of excavation waste and construction debris during construction phase
Environmental Permit and License Regulation	10/10/2014	29115	• Other permits such as authorization for temporary storage of waste, authorization for temporary storage of waste, etc.
Environmental Audit Regulation	11/21/2008	27061	• Implementation and monitoring of the measures envisaged in the EIA Report • Monitoring the operation of facilities in accordance with laws and regulations in terms of environmental legislation.
Regulation on Workplace Opening and Operation Licenses	09/10/2005	25902	• Operation of facilities
Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals	06/23/2017	30105	• Management of chemicals used during construction and operation
Regulation on Occupational Health and Safety in Construction Works	10/05/2013	28786	• Fulfillment of minimum occupational health and safety requirements for construction works

Legislation	Official Gazette Date	Official Gazette Number	Implications for the Project
Personal Protective Equipment Regulation	05/01/2019	30761	• Use of PPE suitable for the work to be done during construction and operation
Health and Safety Signs Regulation	09/11/2013	28762	• To comply with health and safety signs during construction and operation
Regulation on Occupational Health and Safety in Temporary or Fixed Term Works	08/23/2013	28744	• Ensuring that all employees have equal rights
Regulation on Emergency Situations in Workplaces	06/18/2013	28681	• Responding to emergencies that may occur during construction and operation
Regulation on the Procedures and Principles of Occupational Health and Safety Training of Employees	05/15/2013	28648	• Organizing trainings during construction and operation
Regulation on Health and Safety Conditions in the Use of Work Equipment	04/25/2013	28628	• To determine the minimum conditions to be complied with during construction and operation
Occupational Health and Safety Risk Assessment Regulation	12/29/2012	28512	• Determine the risk assessment requirements during construction and operation
Regulation on Overtime and Overtime Working Regarding Labor Law	04/06/2004	25425	• Determination of working hours
Communiqué on List of Hazard Classes for Occupational Health and Safety	03/29/2013	28602	• Determination of the hazard class of the activity
First Aid Regulation	07/29/2015	29429	• Identifying the people who need first aid training according to the number of employees
Regulation on Classification, Packaging and Labeling of Dangerous Substances	12/26/2008	27092	• Packaging and labeling of hazardous materials to be used during construction and operation
Regulation on the Protection of Employees from Noise-Related Risks	07/28/2013	28721	• Ensuring that employees are protected from hearing-related risks
Regulation on the Protection of Workers from Risks Arising from Vibration	08/22/2013	28743	• Ensure that workers are protected from risks related to exposure to vibration
Regulation on Dust Control	11/05/2013	28812	• Identifying and preventing risks that may arise from dust during construction and operation
Regulation on Emergency Situations in Workplaces	06/18/2013	28681	• Planning of emergency situations in workplaces
Subcontracting Regulation	09/27/2008	27010	• Regulating the principal employer-subcontractor relationship
Regulation on Suspension of Work in Workplaces	03/30/2013	28603	• When a hazardous situation is detected during construction and operation, stopping and resuming the work until the hazard is eliminated
Regulation on Vocational Training of Those to be Employed in Dangerous and Very Dangerous Classes of Work	07/13/2013	28706	• To determine the procedures and principles of vocational training of employees working in hazardous and very hazardous jobs

The Solar Power Plant within the scope of the project is included in the Annex-2 List (Article 45) of the Environmental Impact Assessment Regulation. For this reason, Project Introduction File was prepared for the relevant project and submitted to İzmir Provincial Directorate of Environment, Urbanization and Climate Change. As a result of the evaluations, it was decided that Environmental Impact Assessment is not Required with the decision number 202282 dated 04.04.2022 (Annex-3: EIA Certificate).

The electric vehicle fast charging station, which is the other component of the project, is not within the scope of the Environmental Impact Assessment Regulation. The evaluation on this subject has been documented with the letter numbered 5212662 of the İzmir Provincial Directorate of Environment, Urbanization and Climate Change (Annex-6: EIA Out of Scope letter).

A TEİAŞ letter of conformity has been received regarding the suitability of the regional energy lines for the installation of SPP (Annex-7: TEIAS letter of conformity).

A Distribution License has been obtained for Bağyurdu OIZ to distribute the energy to be obtained to the industrialists in the region (Annex-8: OIZ Distribution License).

2.2 International Requirements

Turkish national policy on the protection of the environment, cultural heritage and conservation of biological resources is formulated on the basis of relevant international agreements signed or ratified by Turkey. The relevant environmental, OHS and international labor conventions and agreements ratified by Turkey are listed below:

- International Convention for the Protection of Birds, Paris 1959 (Turkey OG 17.12.1966, no. 12480)
- Convention on the Establishment of a European and Mediterranean Plant Protection Organization (Amended), Paris 1951 (Turkey 10.8.1965)
- European Cultural Agreement 19.12.1954 (Turkey OG 17.6.1957, no. 9635)
- Convention on the Protection of the World Cultural and Natural Heritage, Paris 1972 (Turkey OG 14.2.1983, no. 17959)
- Convention for the Conservation of European Wildlife and Natural Habitats, Bern 1979 (Turkey OG 20.2.1984, no. 18318)
- Convention for the Protection of the Mediterranean Sea against Pollution, Barcelona 1976 (Turkey OG 12.6.1981, no. 17368)
- Protocol on the Protection of the Mediterranean Sea against Land-Borne Pollutants, Athens 1980 (Turkey OG 18.3.1987, no. 19404)
- Protocol on Specially Protected Areas in the Mediterranean Sea, Geneva 1982, (signed 6.11.1986) (OG 23.10.1988, No. 19968)
- Convention on Long-Range Transboundary Air Pollution, Geneva 1979 (Turkey OG 23.3.1983, no. 17996)
- On the Long-Term Financing of the Cooperation Program for Monitoring and Evaluation of Long-Range Transmissions of Air Pollutants in Europe (EMEP) 1979
- Additional Protocol to the Convention on Long-Range Transboundary Air Pollution, Geneva 1984 (OG 23.7.1985, No. 18820)
- Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, (OG 8-9.9.1990, no. 20629)
- Convention on Biological Diversity, Rio de Janeiro, 5.6.1992 (Official Gazette dated December 27, 1996 and numbered 22860)
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitats (RAMSAR), (OG 17.5.1994, no. 21937)
- CITES Convention on International Trade in Endangered Species of Animals and Plants (Official Gazette dated June 20, 1996)
- ILO Framework Convention No. 187 on Occupational Health and Safety (OG dated 29.05.2013 and numbered 28661)
- ILO Convention No. 167 on Safety and Health in Construction Work (OG dated 29.11.2014 and numbered 29190)
- ILO Convention No. 155 on Occupational Health and Safety and Working Environment (OG dated 13.01.2004 and numbered 25345)

- ILO Convention No. 111 on Discrimination (Employment and Occupation) (OG dated 22.12.1966 and No. 12484)
- ILO Forced Labor Convention No. 29 (OG No. 23243 dated January 27, 1998)
- ILO Unemployment Convention No. 2 (OG No. 7346 dated 18.02.1950)
- ILO Weekly Rest (Industry) Convention No. 14 (OG No. 4634 dated February 16, 1946)
- ILO Wage Protection Convention No. 95 (OG dated 28.10.1960 and numbered 10641)
- ILO Convention No. 105 on the Abolition of Forced Labor (OG No. 10686 dated 21.12.1960)

2.3 World Bank Requirements

The World Bank Environmental and Social Standards (ESSs) set out the requirements to be met by Borrowers with respect to the identification, assessment and mitigation of social and environmental risks and impacts associated with projects supported by the Bank through Investment Project Financing.

Seven of the ten ESSs set out the standards that the Borrower and the project will meet throughout the project lifecycle, as follows:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts;
  Evaluation of the effects of the activities in the construction and operation phase of the project on physical, biological and social environment.
  Environmental and social risks and impacts will be determined and necessary actions and mitigation measures will be determined to avoid risk and impacts and/or minimize or reduce them to acceptable levels.
- ESS2: Labor and Working Conditions;
  Establishing suitable working conditions to ensure the safety of those who will work during the construction and operation phases of the project.
  By determining the risks for the employees, these risks will be prevented by training, personal protective equipment, measurement and analysis.
- ESS3: Resource Efficiency and Pollution Prevention and Management;
  Efficient use of natural resources to be used within the scope of the project.
  Establishing and monitoring plans and procedures to avoid unnecessary use of natural resources during the construction and operation phases of the project will be provided.
- ESS4: Community Health and Safety;
  During the construction and operation phase of the project, the local people are not adversely affected in terms of health and safety.
  During the construction and operation phases of the project, necessary precautions will be taken to ensure that the people of the region are not adversely affected in terms of health and safety, and the people of the region are informed about the project.
- ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement Settlement;
  Whether there will be land acquisition within the scope of the project
  Impacts on residents due to land acquisition Restriction of access to the lands of the people of the region due to the project Involuntary migration due to the project.
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
  Conservation of existing biodiversity in and around the project area.
  Taking measures to determine the existing biological diversity in the project area, to protect it in case of endemic species and to prevent damage to the biological diversity around the project area.
- ESS10: Stakeholder Engagement and Information Disclosure.

Involving and informing the person organizations that are likely to be affected by the project, establishing a suggestion and complaint mechanism.
Identifying the person organizations likely to be affected by the project, informing the stakeholders about the project and establishing a system where they can report their suggestions and complaints during the construction and operation phases of the project.

ESS7 "Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities" and ESS9 "Financial Intermediaries" are not relevant to this project as there are no indigenous groups in Turkey that meet the definition provided in ESS7 and the project does not involve a Financial Intermediary. When any OIZ's area is being finalized, Ministry of Culture and Tourism gives information about cultural and historical areas. When if any cultural and historical area is located in that area, those areas are cut off from OIZ's area. In addition, any project that will have adverse impacts on cultural heritage is considered as ineligible and screened out from Türkiye Organized Industrial Zones Project. Therefore, "ESS 8: Cultural Heritage" is not relevant within the project, but chance find procedures is included considering the risk of chance finds during excavation works. (Annex-15 Chance Find Procedure)

In accordance with the ESSs, the World Bank Group's Environment, Health and Safety (EHS) Guidelines should be applied to the project. Therefore, this project will implement the relevant requirements of the EHS Guidelines. In cases where Turkish requirements differ from the levels and measures presented in the EHS Guidelines, the more stringent one (such as the most stringent discharge and emission standards) will be applied in the project specifications.

Key gaps between WB ESSs and Turkish E&S legislation are also provided in Table 2.

Table 2 Comparison between the World Bank ESSs and the National Legislation

WB Environmental and Social Standards (ESS)	Gaps	ESF Documents/study to fill the Gaps
ESS1: Assessment and Management of Environmental and Social Risks and Impacts	The major gaps between national EIA and ESS1 are as follows: Social impact assessment is not completely integrated to the Turkish EIA and this results in the absence of proper social baseline, identification and assessment of the project induced social impacts including impacts on disadvantaged or vulnerable and gender related issues, The absence of an executive summary and information on the legal and institutional framework in the Turkish EIA (Technical level of information in the non-technical summary required in the Turkish EIA may not meet WB requirements); Limited or no requirement to cover cumulative impacts with other projects in the Turkish EIA; and Limited emphasis on the associated facilities. Limited information regarding sub-management plans such as Water Quality Management Plan, Air Quality Management Plan, Noise Management Plan, Hazardous Waste Management Plan, Community Health and Safety Management Plan etc.	Sub-project specific Environmental and social assessment studies regarding ESIA or ESMP will be prepared in line with ESS1. In this respect, as it is defined in Table of Content (ToC) provided in Annex 2 of Environmental and Social Management Framework (ESMF) that was approved by WB for Turkey OIZs Project, potential social impacts of the sub-projects will be the part of the assessment. The environmental and social assessment will include impacts of the associated facilities and potential cumulative impacts. Depending on the level of the impacts and proposed mitigation measures together with residual impact analysis, sub-management plans will be annexed to the ESIA/ESMP.

WB Environmental and Social Standards (ESS)	Gaps	ESF Documents/study to fill the Gaps
ESS2: Labour and Working Conditions	In general, Turkish national laws and regulations regarding labour and working conditions satisfies ESS2 requirements. Worker grievance mechanism is the main gap between national legislative requirement and ESS2. In national legislation on labour and working conditions, there is no specific requirement related to grievance mechanism that allow workers to communicate their complaints to the employer.	Labor Management Procedures (LMP) prepared for the Project, provides guidance on the relevant management measures (such as workers grievance mechanism, code of conduct, etc.) stipulated by ESS2.
ESS3: Resource Efficiency and Pollution Prevention and Management	Most of the relevant national legislations regarding laws and regulations are in line with EU directives. There is no major gap between ESS3 and legislative requirements. Local EIA does not provide detailed management perspective on potential impacts, mitigation measures and residual impacts and monitoring. In other words, sub-management plans are not specifically defined in local EIA process. Additionally, the specific studies regarding resource use and pollution prevention such as Water Source Vulnerability Analysis (WSVA), Greenhouse Gas (GHG) estimations etc. are not specifically included in local EIA Process.	Sub-management plans will be developed as a part of ESIA/ESMP. These management plans also provide requirement stipulated in relevant WB EHS Guidelines. In case a requirement, additional studies (i.e WSVA, GHG etc.) will be performed in the scope of ESIA/ESMP.
ESS4: Community Health and Safety	General principles of community health and safety are addressed under different pieces of legislation. In general, there is no gap in terms of policy. However, impacts from labor influx and gender based violence related risks are not explicitly covered in national law.	The risks and impacts associated with ESS4 are addressed through this ESMP. Sub-management plans (e.g. Traffic Management Plan etc.) will be developed as a part of ESMP depending on the level of risks/impacts to be determined on a case-by-case basis.
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Turkish legislation on land acquisition mainly corresponds to requirements stipulated by ESS5. However, some differences include; preparation of a Resettlement Plan (RP), compensation at replacement costs, continuous consultation during RP implementation, impact assessment on informal land users, vulnerable groups and land based livelihood restoration are the major gaps in terms of ESS5 requirement.	A Resettlement Framework (RF) is prepared for the OIZ Project to provide a guidance to assess any risk of resettlement and to prepare sub-project specific RP in case a requirement.
ESS6: Biodiversity Conservation and Sustainable Management of	There is no gap in terms of policy level. On the other hand, in some cases, level of the considerations of not legally protected sensitive ecological areas such as Key Biodiversity Areas in local EIA Process are not sustain the requirements	Depending on the location of the sub-project and sub-project level of the impact, Biodiversity Management Plans can be annexed to the ESIA/ESMP.

WB Environmental and Social Standards (ESS)	Gaps	ESF Documents/study to fill the Gaps
Living Natural Resources	stipulated by ESS6. Furthermore, management and monitoring of potential impacts, mitigation measures and residual impacts are not detailed in general.	Additionally, sub-projects which have significant impacts in terms of biodiversity will be considered as ineligible for Türkiye Organized Industrial Zones Project.
ESS10: Stakeholder Engagement and Information Disclosure	Effective and transparent stakeholder engagement is the main gap in terms of ESS10 requirement. Within this scope, a Stakeholder Engagement Plan required to identify the different stakeholders (project-affected parties and other interested parties including disadvantaged or vulnerable). Stakeholder engagement should be a continuous process.	Project specific SEP is prepared and included in ESF documents. The SEP will be implemented sub-project level. The GM will be in place and operational during the life of the project.

All phases of the project will also comply with below WBG EHS guidelines.

- EHS General Guidelines of the World Bank Group,
- World Bank Group's EHS Guidelines for Electric Power Transmission and Distribution,

The Project would build on an existing technical assistance relationship between the MoIT and the World Bank Group (WBG) that helped develop a national framework for Green OIZs in Turkey and carried out preliminary assessments of the potential impact of OIZ investments. An Environmental and Social Management Framework (ESMF) has been prepared for Türkiye Organized Industrial Zones Project. The ESMF is the main governing document for the Türkiye Organized Industrial Zones Project that is identifying the project scope and scale, describing the baseline, setting out screening mechanism for the potential sub-projects, examining the environmental and social risks and impacts of the project and presenting the scope of the comprehensive environmental and social management approach to be adopted to eliminate/minimize such risks and impacts for each component and sub-component to address the potential environmental and social impacts of the Türkiye Organized Industrial Zones Project. The ESMF also describes the respective roles and responsibilities in the PIU for risk screening, environmental and social assessment, implementation of the measures set out within the scope of the Environmental and Social Assessment and monitoring and reporting requirements.

In this context, as an implementing agency for the project, MoIT will provide loans to borrowing OIZs, as a sub-borrower and the Project as a selected Project will use a loan.

3.INTRODUCTION OF THE PROJECT OWNER

3.1 History of the Institution

The foundation of Bağyurdu Organized Industrial Zone was laid in 2006 when a group of approximately 100 industrialists from the region (SS KOBSAN Land and Housing Construction Coop) came together.

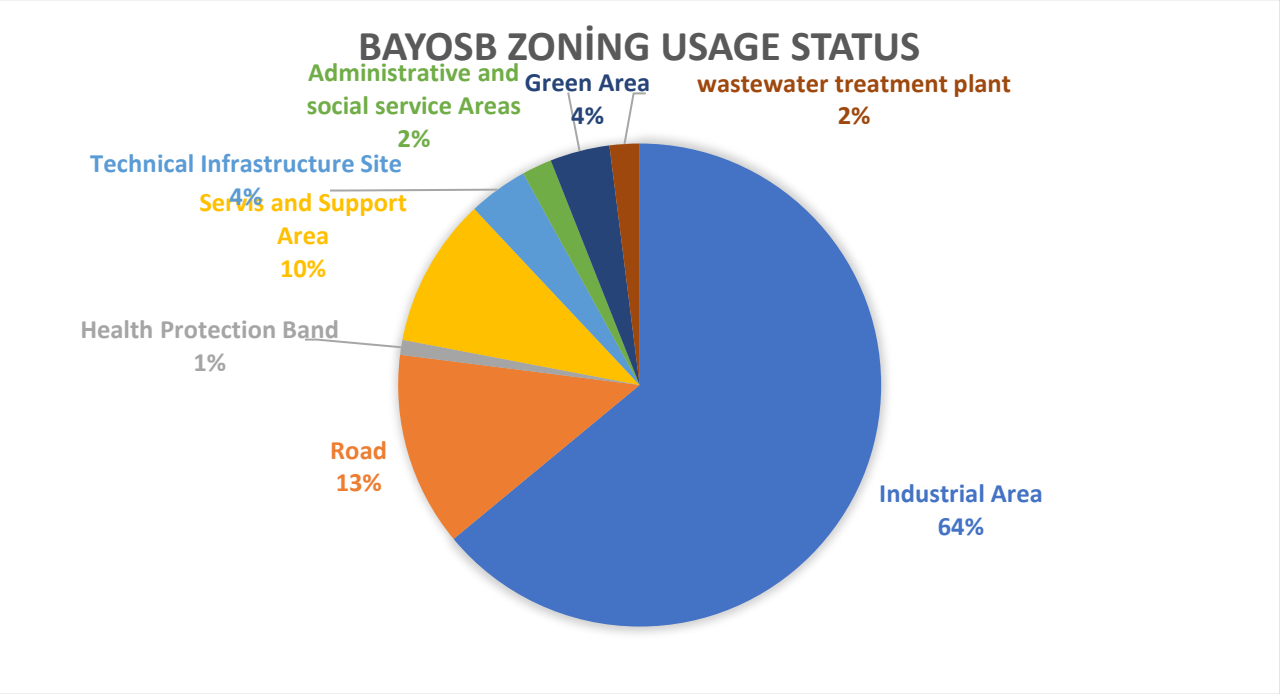
With the Site Selection Commission Report dated 29.05.2007 and the letter of the Ministry of Industry dated 24.12.2007, the proposed site for the OIZ has been approved as OIZ land. On 15.07.2008, Organized Industrial Zones were approved as an OIZ area according to the 22nd Article of the Site Selection Regulation.

Figure 1: BAYOSB Site Plan

On 27.10.2008, it was registered within the framework of the law numbered 4562 and legal entity was acquired. Following the completion of the establishment process, infrastructure works were initiated in 2011. The site plan of BAYOSB is given is Figure 1.

3.2 Institution Land Use

Located on an area of approximately 1,500,000 m^2, BAYOSB has 87 parcels of various sizes. Land uses are planned as industrial area, treatment plant, green area-park, administrative and social facility area, technical infrastructure area, service support area and health protection band.



Graphic 1: BAYOSB Zoning Usage Status

In the current situation, the land uses in the OIZ are industrial use, roads, service and support area, technical infrastructure, green area, administrative and social service area, treatment plant, and health protection band. The largest land use is for industrial purposes with 64% (see Graphic 1). Land uses are depicted on the general site plan given in Figure 1.

The number of industrial parcels in Bağyurdu OIZ is 90, of which 52 are allocated and 38 are pre-allocated. Production has been started in 22 parcels. The number of employees in these companies is 1200, and with the subcontractors working in construction, etc., approximately 2500 people work in the region.

3.3 Organization Chart

Staff Capacity of the OIZ: A total of 15 personnel work in Bağyurdu OIZ. Projects are carried out by administrative staff. There are eight (8) Administrative Staff. The list of positions in the Bağyurdu OIZ is listed below.

- Industrial Zone Manager
- Project Specialist
- Finance Specialist
- Civil Engineer
- Electrical Engineer

- Administrative Affairs Manager
- Survey Technician
- Manager Assistant

Furthermore, a project implementation unit (PIU) was established in the OIZ. The list of expert in the PIU and their project implementation experiences are provided below in Table 3.

Table 3 Project implementation experiences of the staff

Title	Responsibilities in the previously implemented projects in OIZ
Industrial Zone Manager	Project coordinator of four (4) projects implemented in Bağyurdu Organized Industrial Zone 1- Bağyurdu Organized Industrial Zone Vocational Training Center Project 2- BAYOSB Energy Paths 3- Green OIZ Roadmap Project 4- BAYOSB Sustainable Training Center
Project Specialist	Project specialist in three projects implemented in Bağyurdu Organized Industrial Zone 1- Bağyurdu Organized Industrial Zone Vocational Training Center Project 2- Green OIZ Roadmap Project 3- BAYOSB Sustainable Training Center
Financial Management Specialist	Financial management specialist of four projects implemented in Bağyurdu Organized Industrial Zone 1- Bağyurdu Organized Industrial Zone Vocational Training Center Project 2- BAYOSB Energy Paths 3- Green OIZ Roadmap Project 4- BAYOSB Sustainable Training Center
Civil Engineer	Civil engineer of one of the projects implemented in Bağyurdu OIZ
Electrical Engineer	Electrical engineer of one of the projects implemented in Bağyurdu OIZ
Administrative Services Manager	Administrative services manager of three (3) projects implemented in Bağyurdu Organized Industrial Zone 1- Bağyurdu Organized Industrial Zone Vocational Training Center Project 2- Green OIZ Roadmap Project 3- BAYOSB Sustainable Training Center
Survey Technician	Mapping Technician in projects carried out in Bağyurdu Organized Industrial Zone
Manager Assistant	Assistant in projects carried out by Bağyurdu Organized Industrial Zone

Bağyurdu OIZ Project Implementation Unit will be responsible for managing the environmental (including OHS) as well as social impacts of the project. Bağyurdu OIZ will also have an environmental specialist and an occupational health and safety (OHS) specialist in its PIU during the implementation of this sub-project.

The organizational chart of the Bağyurdu OIZ is provided in Figure 2 and the staff who will be directly involved in the project implementation are shown in colored boxes.

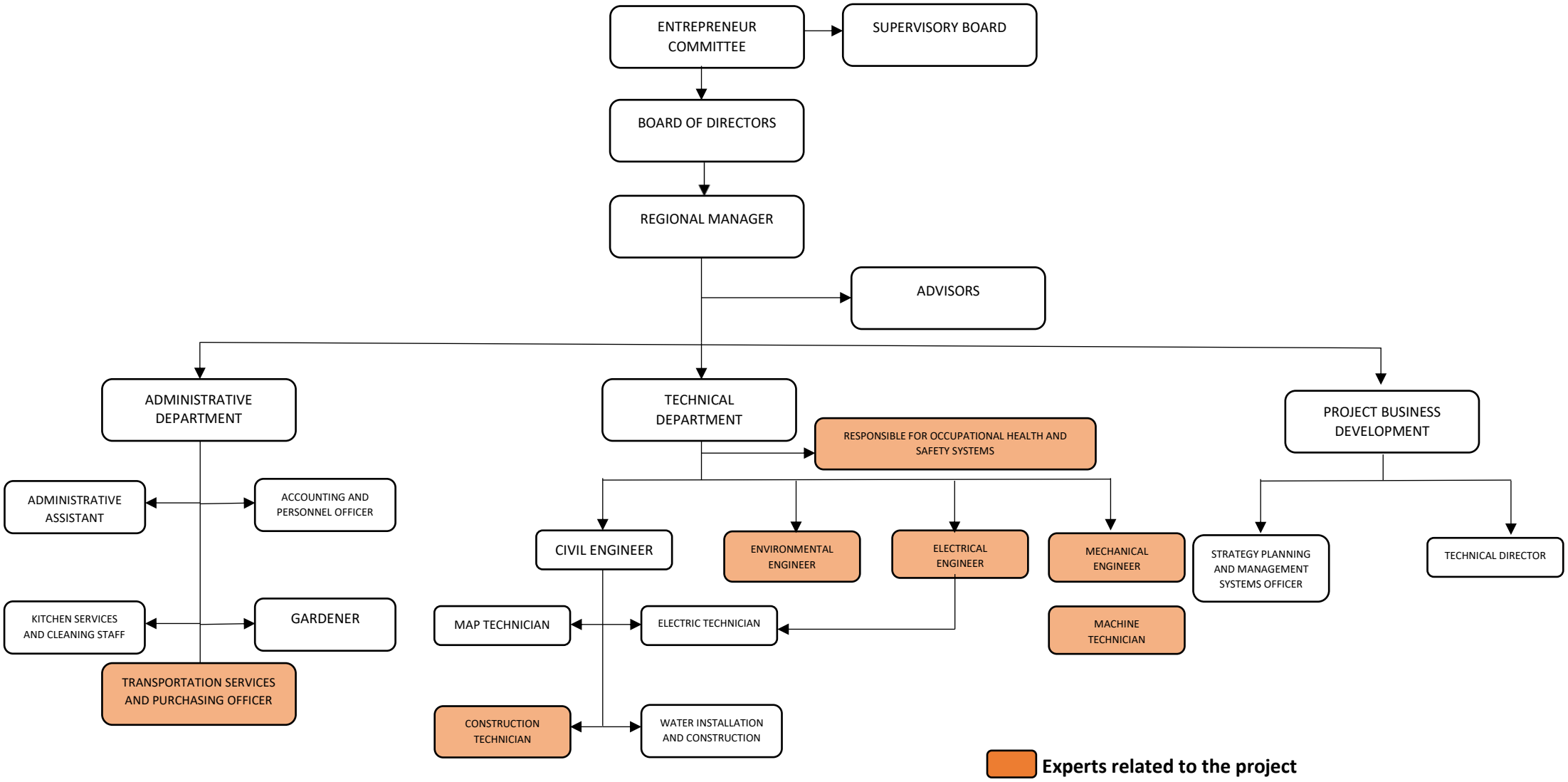


Figure 2: BAYOSB Organization Chart

4. PROJECT INTRODUCTION

4.1 Solar Power Plant

It is planned to establish a solar power plant with a capacity of 1.6 MW by Bağyurdu OIZ. The project area, parcel no. 1 of block 110, has been determined in İzmir province, Kemalpaşa district, in Bağyurdu OIZ and its ownership belongs to the OIZ Directorate (see Figure 3).

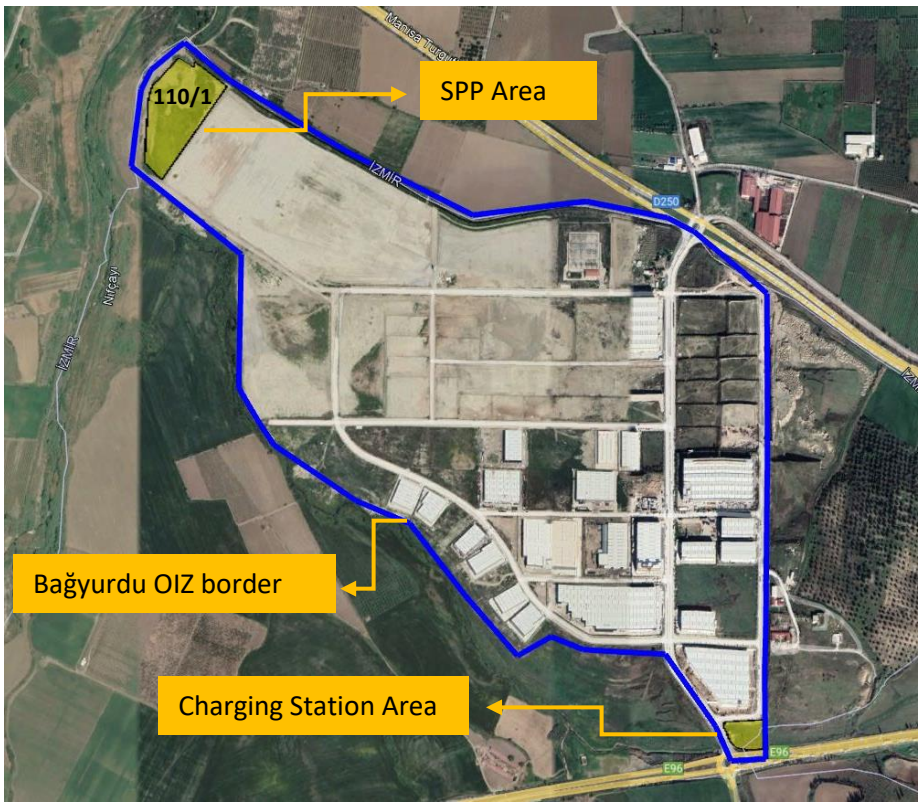


Figure 3 Project Area Title Deed Information

The parcel size is 29,491.62 m². However, the project will be realized in 18,555.44 m² of this area. A wastewater treatment plant will be built later in the remainder of the area. Monocrystalline solar panels or polycrystalline solar panels will be preferred as solar panels in the project.

The electricity from the solar power plant will be connected to the distribution system available in the OIZ. Existing transmission lines will be used for the sub-project. Therefore, there will be no construction of new or additional energy lines.

4.2 Transformer

The transformer is an integral part of the SPP project. Within the scope of the project, a transformer center with a power of 2500 kVA will be built in order to convert the quantities of electrical energy to the desired value. Cabling operations between the panels and the transformer will be laid underground. Likewise, grounding cables will be underground (see Figure 4).

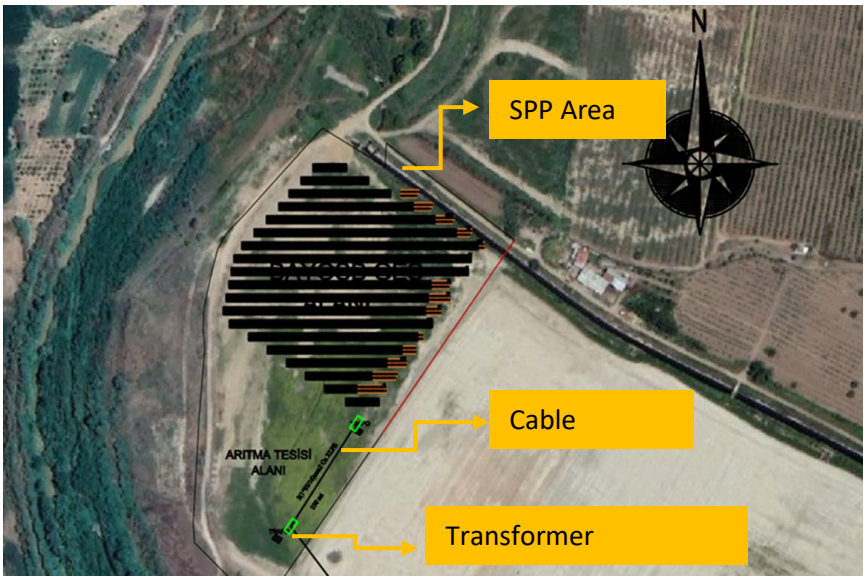


Figure 4: SPP and Transformer Layout Satellite Image

4.3 Transmission Line

An underground transmission line will be established within the project area in order to transmit the energy produced in the solar panels to the transformer. There will be no transmission line outside the project area. The existing lines of OIZ will be used (see Figure 4).4.4 Electric Vehicle Quick Charge Station.

Within the scope of the project, it is planned to establish a charging station for rapid charging of both the electric vehicles in the OIZ and the electric vehicles of the people in the region. For the charging station, parcel no. 27, block 104, with an area of 5,258.47 m2, located within the borders of Bağyurdu OIZ and owned by the OIZ directorate, was selected. A charging unit will be installed where two vehicles can be charged at the same time (see Figure 5,Figure 6).

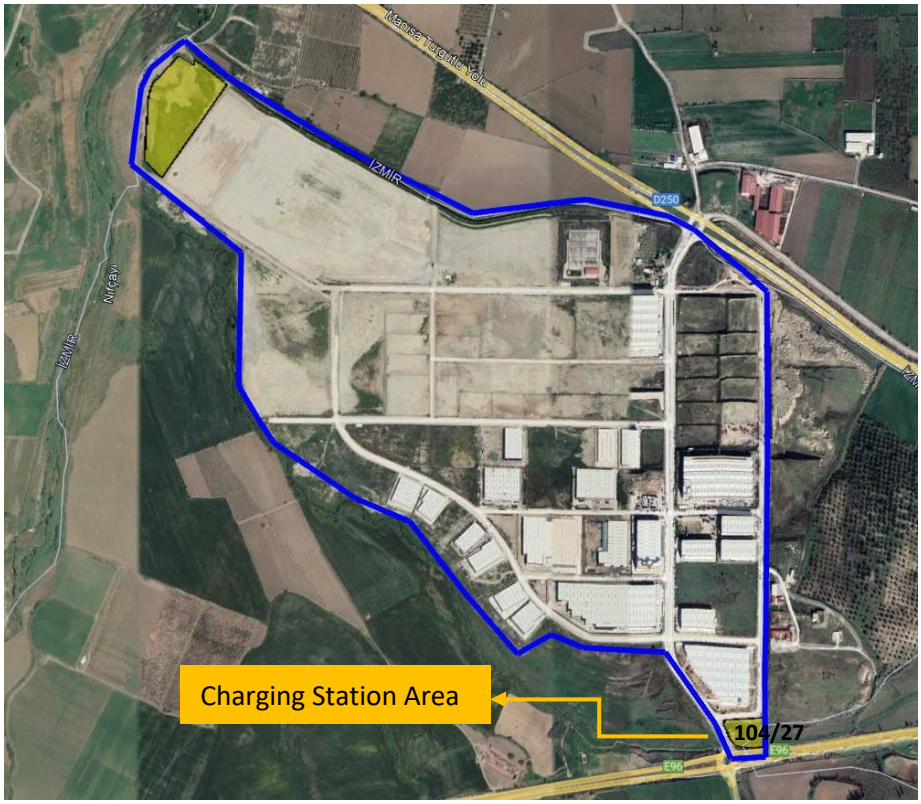


Figure 5: Charging Station Area Satellite Image

Figure 6: Charging Station Area Layout Plan

4.4. Suitability of the Project Area for Solar Power Plant

When choosing a location for the solar power plant, the following issues have been taken into consideration;

- The fact that the plant site is a region suitable for generating electricity from solar energy (see Figure 7,Figure 8)
- There are no legal obstacles or restrictions on use within the scope of the applicable legislation in and around the power plant site, and
- the fact that Izmir province has a production capacity in the average of Turkey in terms of solar energy.

In addition to the above-mentioned data, data on global radiation values (Graphic 2, Graphic 5), sun exposure times (Graphic 3, Graphic 6), and energy production capacities according to panel types (Graphic 4, Graphic 7) in Turkey and İzmir were taken into account.

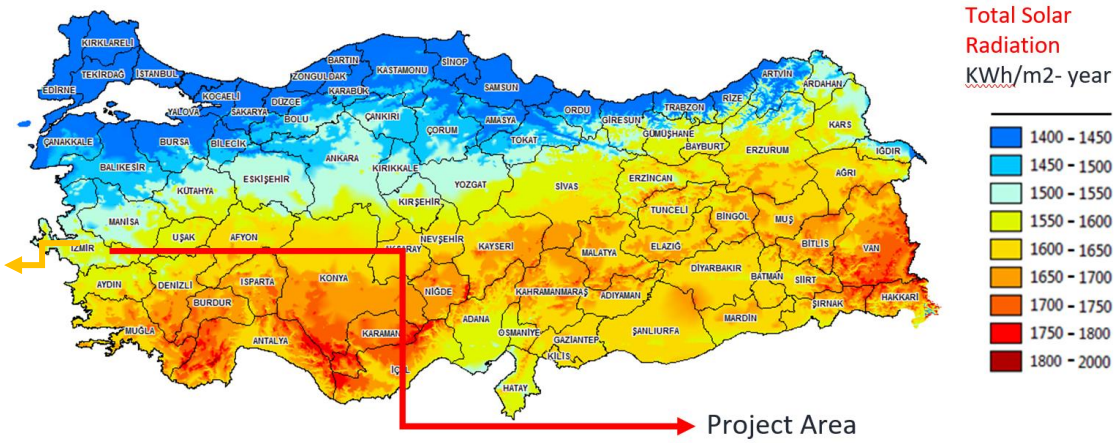
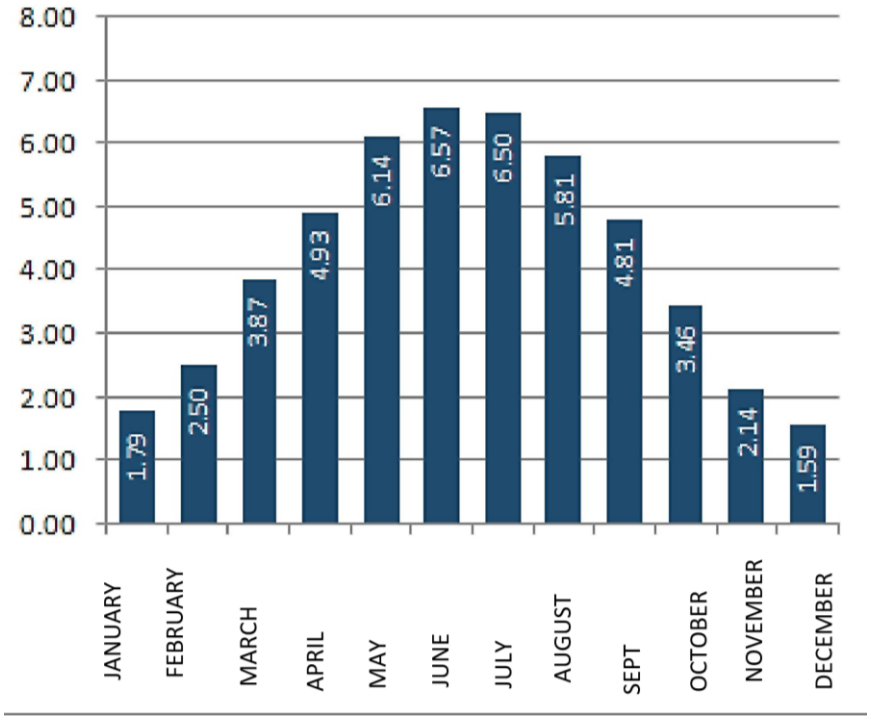
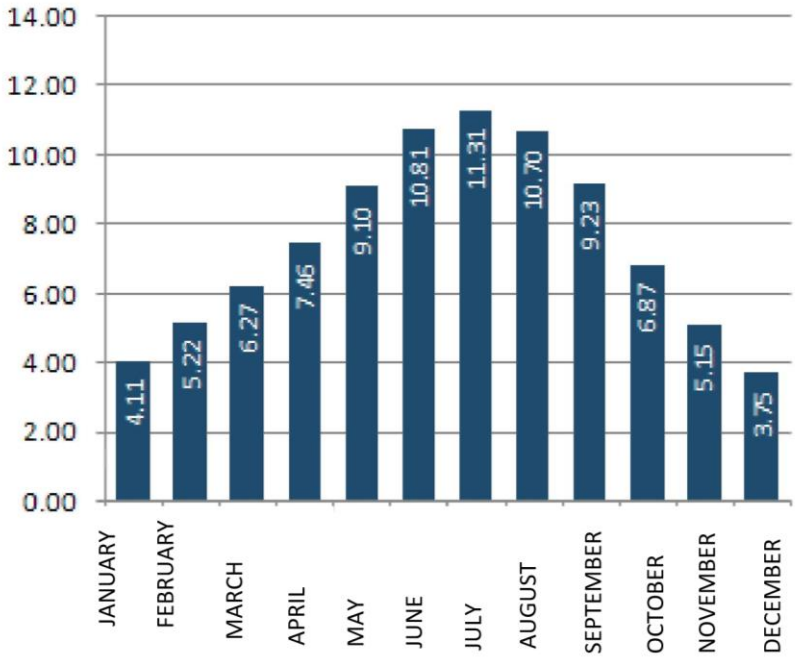


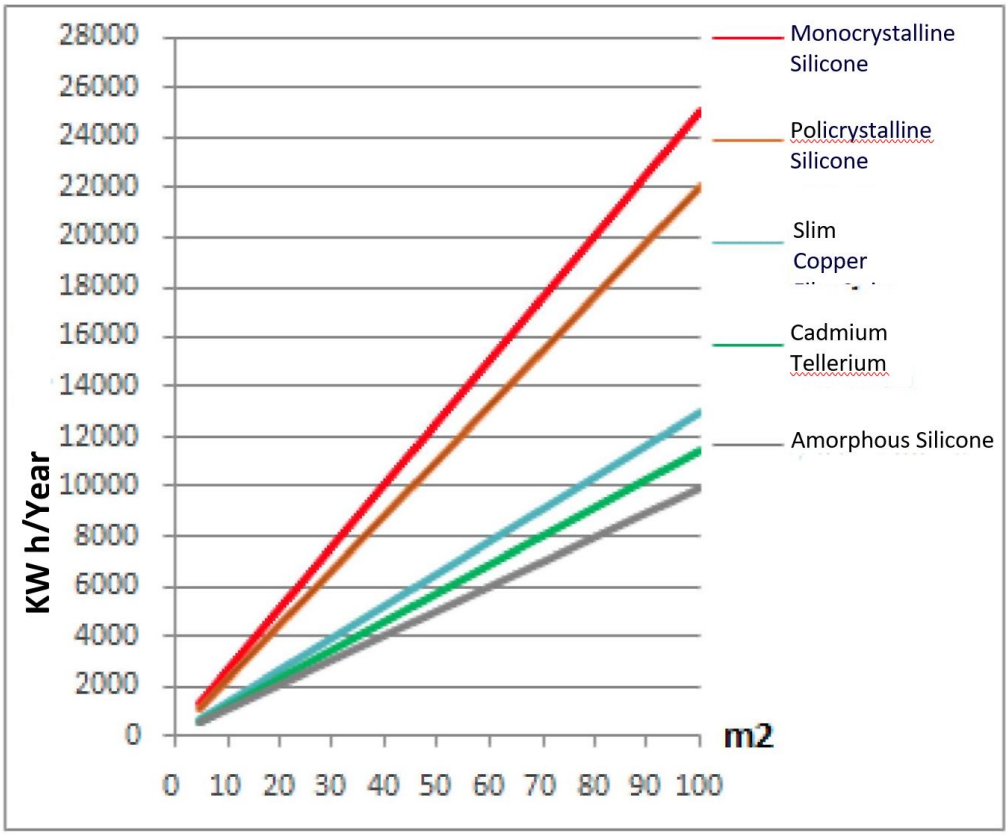
Figure 7:Solar Energy Potential Atlas of Turkiye
Source: gepa.enerji.gov.tr/MyCalculator/



Graphic 2: Global Radiation Values for Turkiye (KWh/m2-day)



Graphic 3: Sunbathing Hours for Turkiye (Hours)



Graphic 4: PV Type-Area-Producible Energy for Turkiye (KWh-Year)

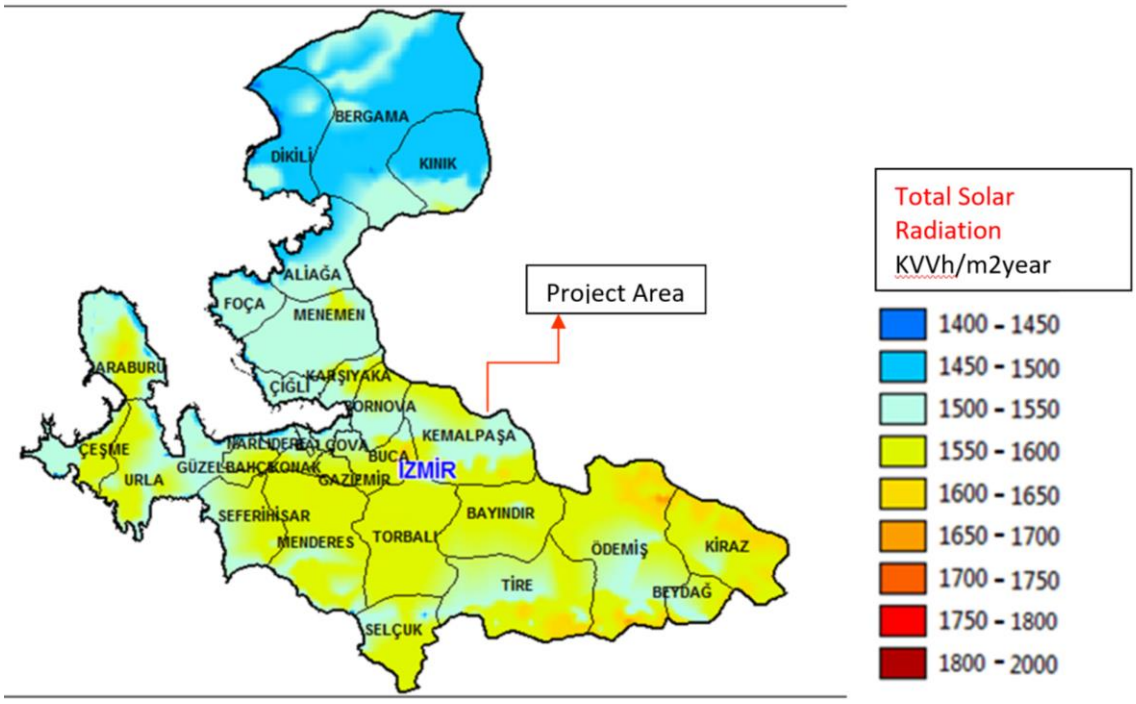
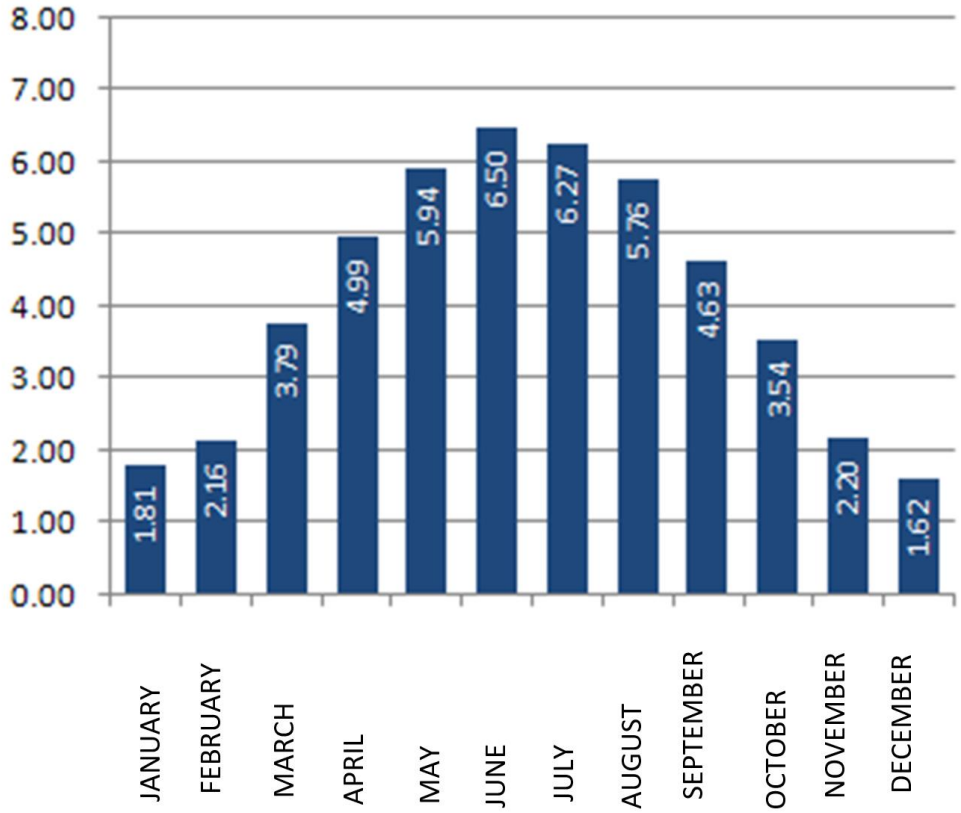
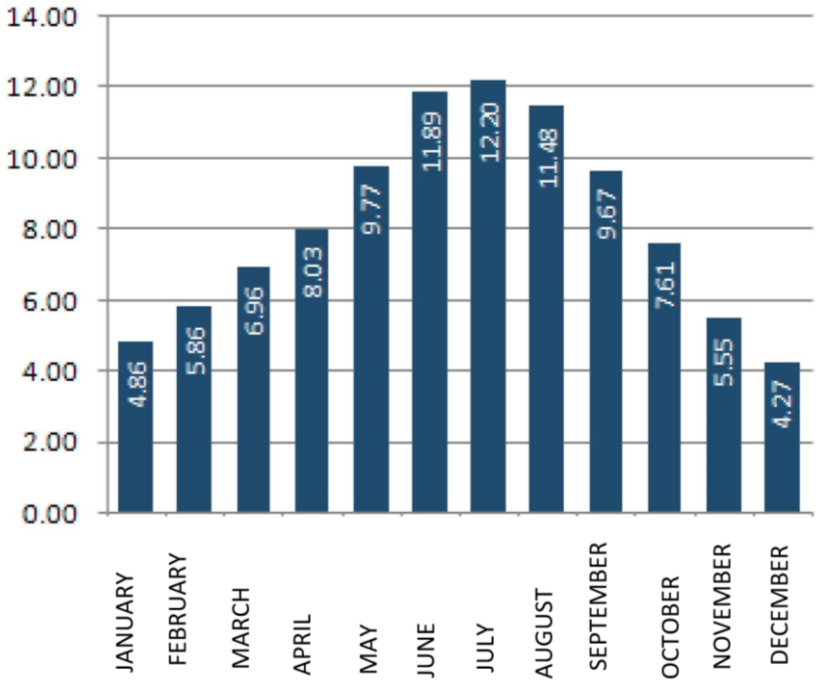


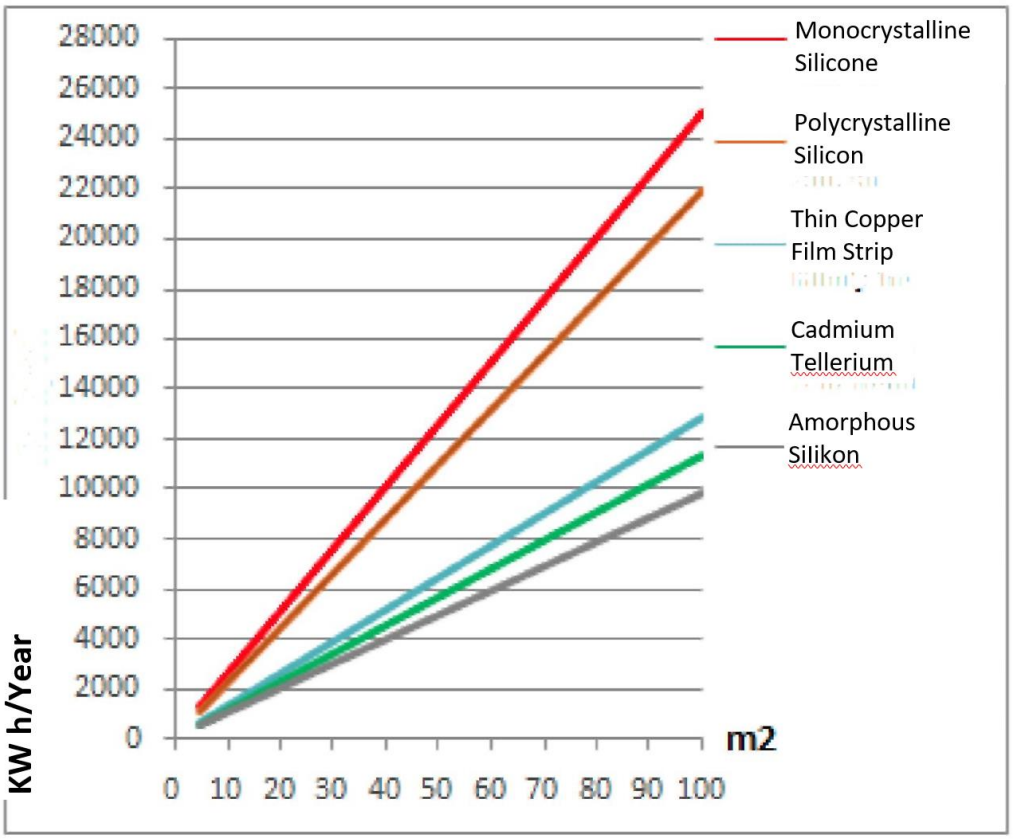
Figure 8:Solar Energy Potential Atlas of Izmir Province
***Source:** gepa.energy.gov -tr*



Graphic 5:Global Radiation Values for Izmir Province (KWh/m2-day)



Graphic 6: Insolation Periods (Hours) for Izmir Province



Graphic 7: PVType-Area-Producible Energy (KWh-Year) for Izmir Province

4.5 Solar Power Plant Technology

What needs to be done to realize electricity generation with solar energy is the installation of solar panel systems. The solar cells in the solar panels absorb the incoming energy and the absorbed energy is transmitted to the generator through certain parts of the system. Absorption refers to the absorption of light energy at a certain rate.

Solar cells (photovoltaic cells) are semiconductor materials that convert sunlight incident on their surface directly into electrical energy. Solar cells, whose surfaces are shaped as square, rectangular or circular, usually have an area of around 100 cm² and a thickness of 0.1-0.4 mm. Solar cells work on the photovoltaic principle, which means that when light falls on them, an electrical voltage is generated at their terminals.

The source of the cell's electrical energy is the solar energy incident on its surface. Solar energy can be converted into electrical energy with an efficiency between 5% and 30% depending on the structure of the solar cell. A typical solar power plant operation scheme is shown in Figure 9.

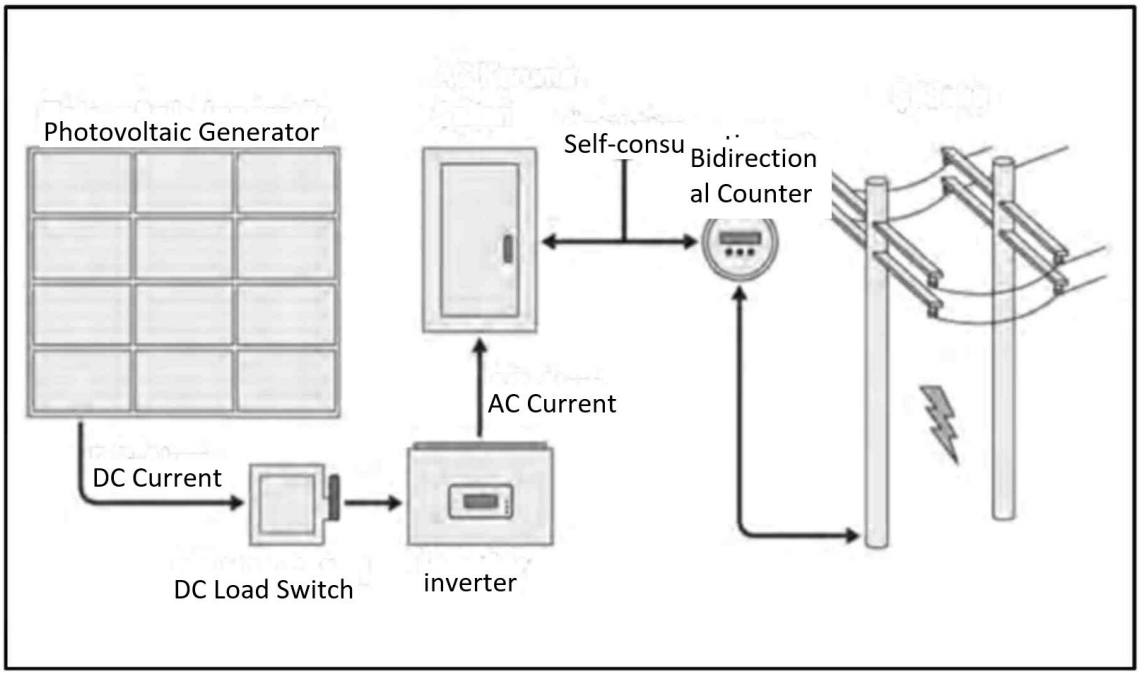


Figure 9: Solar Power Plant Operation Scheme

4.6 Solar Power Plant Units

Photovoltaic Panel:

It is a panel formed by the combination of small cells, where electric current is created with the effect of sun rays.

Inverter:

Solar panels produce direct current. The electricity coming from the direct current load switch to the inverter is converted into Alternating Current Electric Current. The device that performs this process is called an inverter.

In the planned project, it is planned to establish a Photovoltaic Solar Power Plant (SPP) with a total installed capacity of 1.6 MW AC (alternating current).

Energy Generation:

Energy production will be realized by installing 3500 photovoltaic panels with 540 Wp power and monocrystalline structure and 16 inverters with 100 kW power.

Measurement of Energy:

With the 16 inverters' remote monitoring module, the daily generated energy, instantaneous power, current and voltage supplied to the system can be seen for each phase, and the energy produced and consumed will be recorded through the bidirectional meter in the low voltage measurement cell in the transformer building.

Synchronization and Inverting:

DC (direct current) power generated from photovoltaic panels will be converted to AC power through inverters and connected to the grid after passing through appropriate protection equipment. Inverters shall provide all the protection system required by the Regulation on Unlicensed Electricity Generation in the Electricity Market and the relevant technical legislation.

In addition, the low voltage protection relay to be located in the AC Main Panel on the low voltage side will ensure that the main switch of the solar power plant is turned on when the grid connection is disconnected.

Photovoltaic Panels - Inverters:

The panels to be used for energy generation in the facility will be a single type 540 Wp Photovoltaic Module. Inverters will be 16 units of 100 kW capacity. Inverters with a total AC power of 1.6 MW will be used. There will be protection against islanding present in the inverter. DC protection fuses shall be provided at the positive and negative ends of all strings in the DC section of the inverter.

Construction

Photovoltaic panels will be installed on the roof type construction system. Solar panels and transformer layout plan is provided in Figure 10.

Project construction is expected to be completed in approximately four (4) months. The planned time schedule is given in Table 4.

It is anticipated that approximately 10 workers will be employed during the construction phase of the project. These workers are blue-collar workers who will work such as hammering the panel legs, installing the panel, pulling the cable, preparing the transformer site. At the end of the construction, there will be a need for a white collar for energy connections, even if it is a short time. No construction camp site will be established for these workers in or around the project area. Daily needs of the workers will be met at the OIZ Directorate facilities.

White collar workers will not work during the construction phase of the project. However, the drawing of the project and the energy connections will be made by the engineers.

During the operation phase of the project, there will be no work other than maintenance and repair times.

4.7 Project Construction Timeline

The timeline for the construction phase is given in Table 4.

Table 4 Time Schedule

PROJECT STEPS	MONTHS															
	1				2				3				4			
Evaluation of Offers																
Contractor Selection																
Control of Materials																
Project Construction																
Provisional Acceptance																

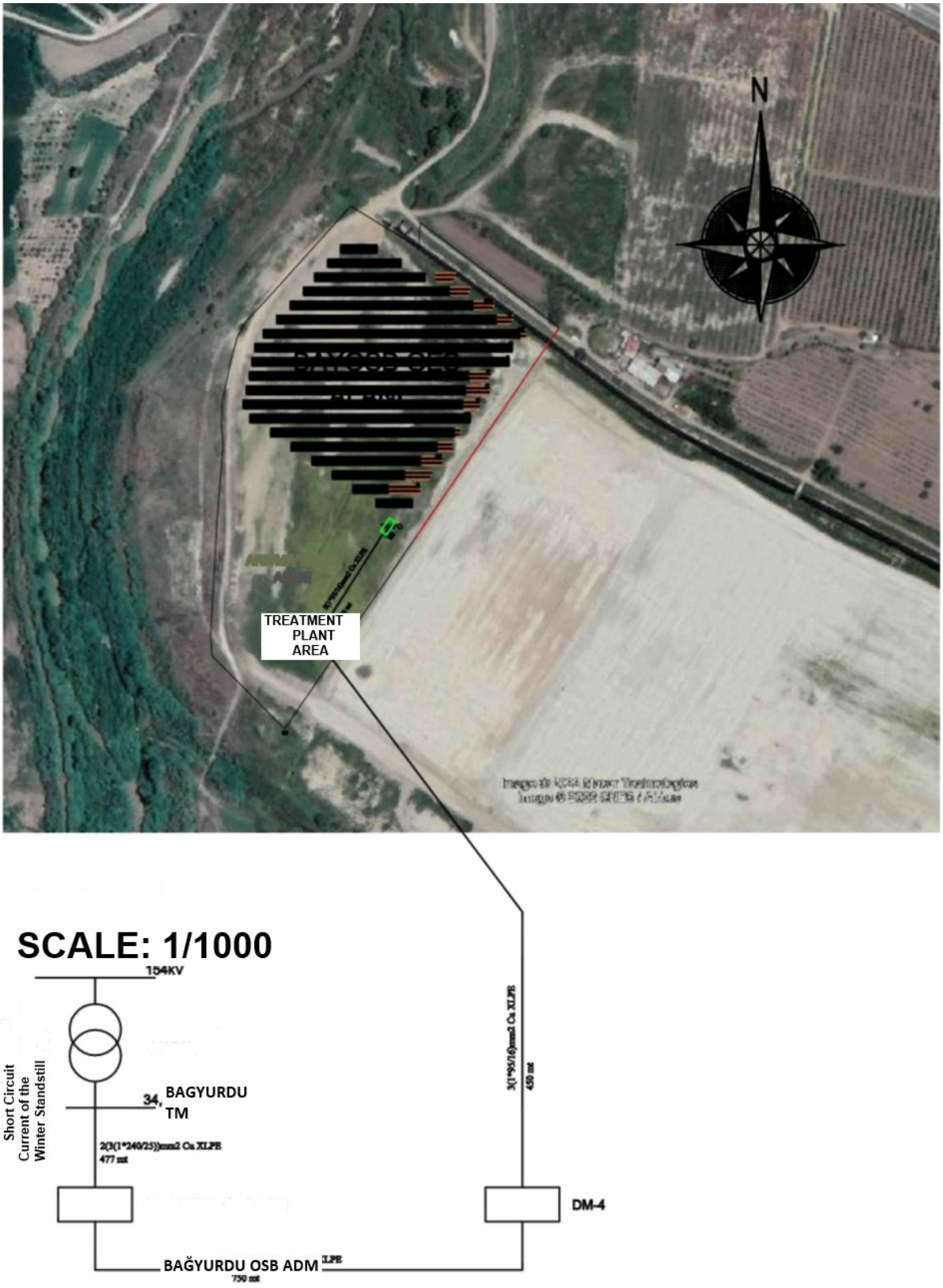


Figure 10:Solar Panels and Transformer Layout Plan

As a result of the examinations carried out for the planned Solar Power Plant, it was determined by Renewable Energy Projects Evaluation Monitoring System (REPEMS) that it is appropriate to establish

a Solar Power Plant on the site whose coordinates are given below (see Figure 11). The report on the ground suitability for driving the panels is given in Annex-5: Technical Review Report.

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TECHNICAL ASSESSMENT REPORT ON SOLAR ENERGY BASED PRODUCTION FACILITY

APPLICATION NUMBER	**BAĞYURDU -OSB -GES -2**	
NAME AND CONTACT INFORMATION OF THE APPLICANT	**BAĞYURDU ORGANIZED INDUSTRIAL REGION İzmir Ankara Cad. No: 5 Kemalpasa IZMIR**	
FACILITY NAME	**BAYOSB GES POWER PLANT**	
APPLICATION DATE TO THE DISTRIBUTION COMPANY	**1.8.2022**	
LOCATION OF PRODUCTION FACILITY	**PROVINCE**	**İzmir**
	DISTRICT	**Kemalpasa**
	VILLAGE/QUATER	**OIZ**
TECHNOLOGY TYPE	**Photovoltaic Systems; Photovoltaic systems sited at optimum angle** **Other Systems;**	
APPLICATION LOCATION	**Land**	
CELL TYPE TO BE USED IN PHOTOVOLTAIC SYSTEMS	**Photovoltaic Cells; Single crystal structure**	
Total installed capacity of the eligible facility AC (kWe) / DC (kWp)	**1600/ 1630.64**	
Name of the substation and connection point whose connection is deemed appropriate	**BAĞYURDU**	
1/25000 scale map name	**K19D4**	
Projection System	**GK Central 27 (ITRF - 3°)**	
Area of the power plant site {m2}	**14.5S7.41**	

CORNER POINTS OF THE LAND WHERE THE FACILITY WILL BE BUILT

CORNER NUMBER OF THE LAND WHERE THE FACILITY WILL BE BUILT	East (right value)	North (up value)
K1	553687,379	4263341,093
K2	553687,752	4263348,311
K3	553697,015	4263368,51
K4	553695. 08	4263380,099
K5	553699,031	4263387 062
K6	553749,331	4263442,302
K7	553792,982	4263415,456
K8	553793,837	4263427,162
K9	553847,078	4263386,894
K10	553774,762	4263281,267

Date Issued

8.9.2022

1903

APPROPRIATE

Figure 11: Technical Evaluation Report

Calculations related to the solar panel feet during the construction phase of the project, mounting patterns and cross-section images are given below (see Figure 12, Figure 13, Figure 14).

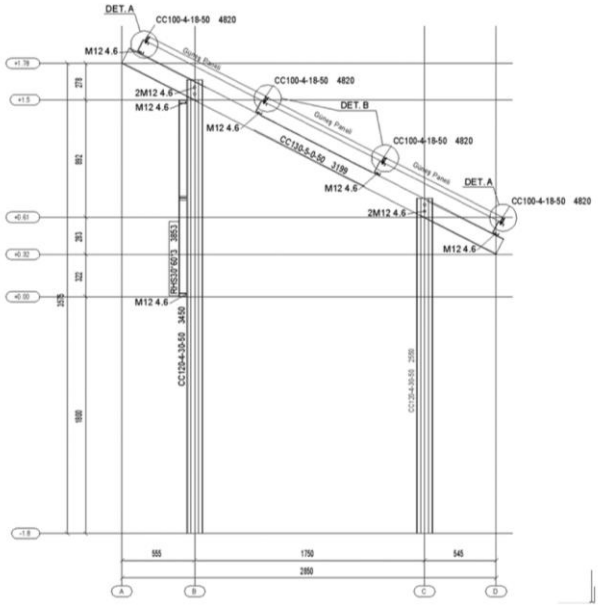


Figure 12: Reference Section Drawing

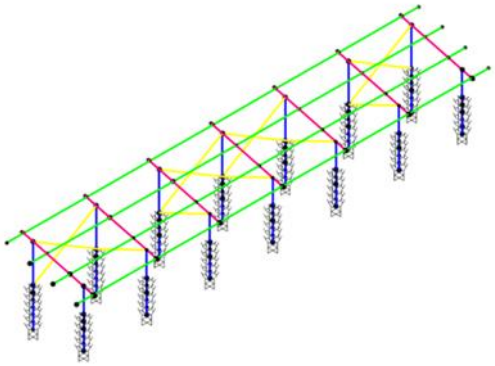


Figure 13: Carrier System 3D View

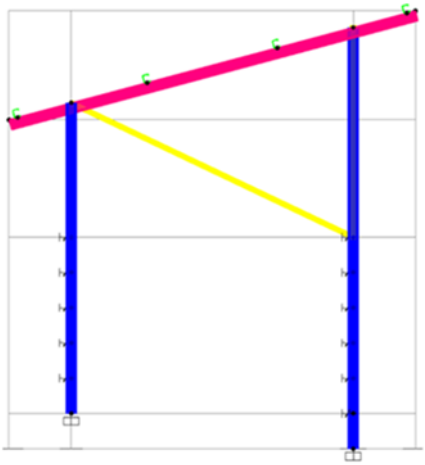
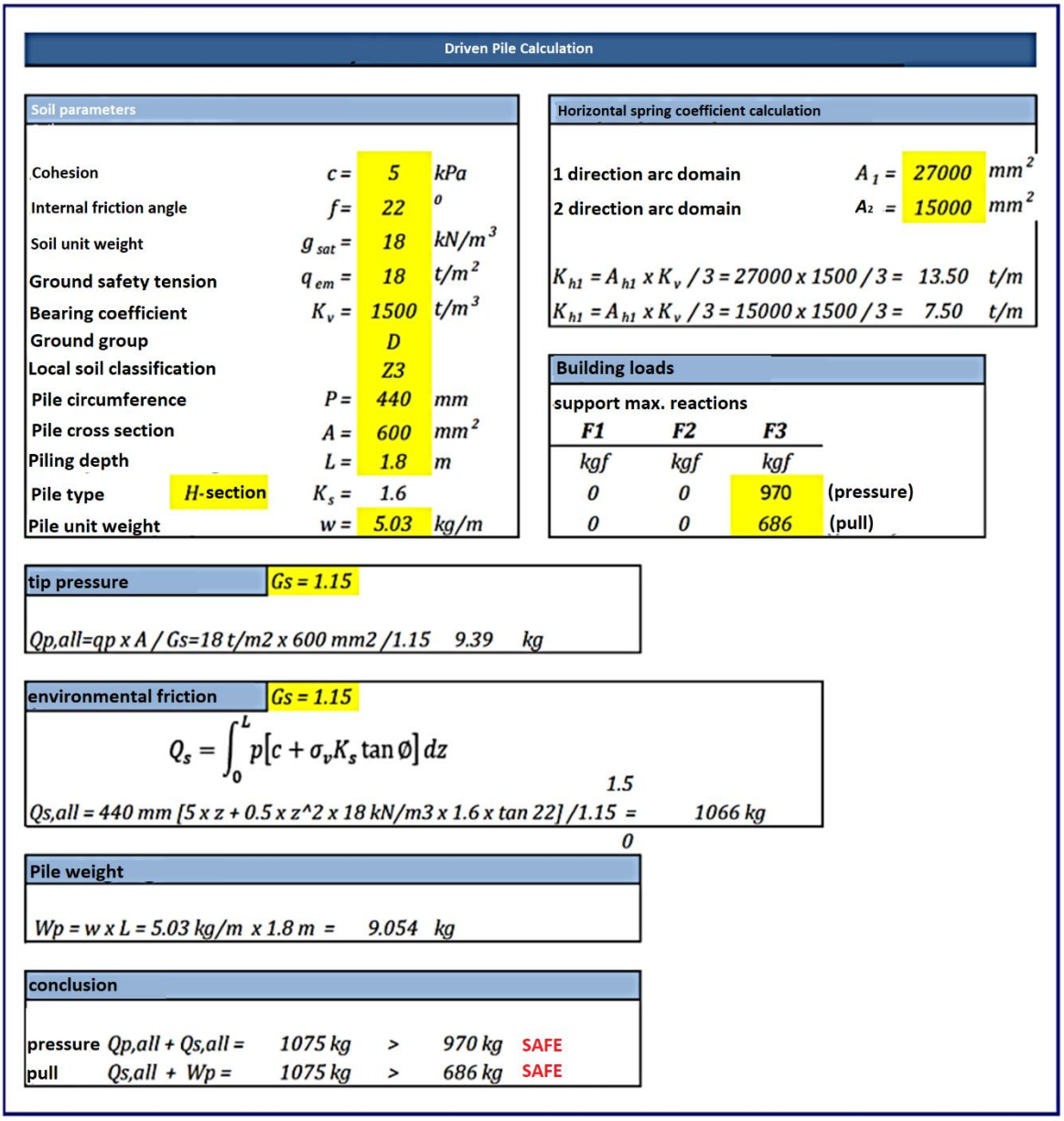


Figure 14: Carrier System Sectional View



Driven Pile Calculation

Soil parameters

Cohesion	$c =$	5	kPa
Internal friction angle	$f =$	22	^{0}
Soil unit weight	$g_{sat} =$	18	kN/m^3
Ground safety tension	$q_{em} =$	18	t/m^2
Bearing coefficient	$K_v =$	1500	t/m^3
Ground group		D	
Local soil classification		Z3	
Pile circumference	$P =$	440	mm
Pile cross section	$A =$	600	mm^2
Piling depth	$L =$	1.8	m
Pile type H-section	$K_s =$	1.6	
Pile unit weight	$w =$	5.03	kg/m

Horizontal spring coefficient calculation

1 direction arc domain	$A_1 =$	27000	mm^2
2 direction arc domain	$A_2 =$	15000	mm^2

$K_{h1} = A_{h1} \times K_v / 3 = 27000 \times 1500 / 3 =$ 13.50 t/m

$K_{h1} = A_{h1} \times K_v / 3 = 15000 \times 1500 / 3 =$ 7.50 t/m

Building loads

support max. reactions

F1	F2	F3	
kgf	kgf	kgf	
0	0	970	(pressure)
0	0	686	(pull)

tip pressure Gs = 1.15

Qp,all=qp x A / Gs=18 t/m2 x 600 mm2 /1.15 9.39 kg

environmental friction Gs = 1.15

$$Q_s = \int_0^L p[c + \sigma_v K_s \tan \emptyset]\, dz$$

Qs,all = 440 mm [5 x z + 0.5 x z^2 x 18 kN/m3 x 1.6 x tan 22] /1.15 = 1066 kg (integrated from 0 to 1.5)

Pile weight

Wp = w x L = 5.03 kg/m x 1.8 m = 9.054 kg

conclusion

pressure	Qp,all + Qs,all =	1075 kg	>	970 kg	SAFE
pull	Qs,all + Wp =	1075 kg	>	686 kg	SAFE

Figure 15: SPP Project Static Calculation Report

As a result of the static calculations made in line with the Soil Investigation Report, it was determined that the panel legs of the project area were suitable for the project area to be constructed by graveling. As can be seen from the above-mentioned calculations (Figure 15), it is found to be SAFE to have double-legged panel feet and to install these panels on the land by hammering. Therefore, potential environmental and social impacts of panel legs driving during the construction phase have also been considered within the scope of this management plan.

Within the scope of the project, 1 Electric Vehicle Fast Charging Station is planned on the parcel no. 27 on block 104, the ownership of which belongs to the OIZ Directorate. The location of the designated

area for the electric vehicle charging station is shown in Figure 16. In addition, the current situation of the project area is given in Figure 18 and Figure 19. A sample picture of the planned charging station is also given in Figure 17. Electric Vehicle Fast Charging Station is not within the scope of EIA Regulation and Environmental Permit Certificate. The letter of İzmir Provincial Directorate of Environment, Urbanization and Climate Change regarding this subject is given in Annex-6: EIA Out of Scope letter.

Figure 16: Electric Vehicle Charging Station Area

Figure 17: Sample Electric Vehicle Charging Station

Figure 18: Electric Vehicle Charging Station Parking Lot Image- 1

Figure 19: Electric Vehicle Charging Station Parking Lot Image- 2

The Electric Vehicle Fast Charging station will have the following features.

1. Electric vehicle charging units will be DC voltage type and will have a power range of 120 and 180 kW.
2. Electric vehicle charging station input voltage will be 380-400 Vac for three-phase
3. The electric vehicle charging station will comply with CCS and CHAdeMO standards.
   a. It shall be able to support IEC62196-1/3, IEC 61851-1/23/24 standards for CCS.
   b. It will be equipped to support 200-920Vdc and 200A capacity for CCS.
   c. It shall have IEC62196-1/ 3, IEC 61851-1/ 23 / 24, ISO 15118-1/ 2 / 3, DIN 70121 standards for CHAdeMO
   d. It will be equipped to support 150-500Vdc and 125A capacity for CHAdeMO.
4. Electric vehicle charging units will be able to operate in the frequency range of 50-60 Hz.
5. Electric vehicle charging units will be able to operate smoothly between -25 C + 50 C.

6. Type-2 43kW output in the electric vehicle charging unit shall be capable of supporting 400Vac 50/60hz and 63A capacity and IEC62196-1/2, IEC61851-1 standards.
7. The electric vehicle charging unit will have 1 Type-2 socket supporting 22kW power capacity.
8. The electric vehicle charging unit shall be protected by a locking mechanism against non-user intervention and the cable connections shall not be disconnected without user authorization.
9. Electric vehicle charging units shall be metal or steel type.
    a. The units shall have at least IP54-55 protection class and IK10 mechanical strength.
    b. The charging station shall have IEC Class-1 protection level.
10. Electric vehicle charging stations will be equipped with Mode 3 and also with Mode 2 Schuko Type sockets for Bicycle and Scooter Charging.
    a. Mode 2 Charging socket shall be capable of magnetic presence detection in accordance with NFC61-314 and IEC 60884-1 standard when operating in 3.7 kW mode.
    b. The Mode 3 and Mode 2 charging socket will also be suitable for simultaneous use.
11. Electric vehicle charging units will be able to charge at least 2 and at most 4 electric vehicles at the same time with the same energy where necessary.
12. As an option, there will be a panel display on the front panel of the electric vehicle charging unit showing the charging status to the user.
    a. The display will be visible on the front panel of the unit as a warning if the charging cable between the electric vehicle is not correctly connected.
    b. The display shall be selected so that it can operate smoothly over the operating temperature range of the unit.
13. The product range of the electric vehicle charging unit manufacturer will also include low voltage distribution and protection products.
    a. Fuse and residual current protection relay shall be installed to protect the electric vehicle charging unit(s).
14. Product wear class shall be 3C2 according to IEC 60721-3-3 standard.
15. Electric Vehicle Charging Station will be Class 1 in IEC 61140 standard for electrical safety.
16. Charging units shall comply with IEC/EN 61851-1, IEC/EN 61851-22, IEC/EN 62196-1, IEC/EN 62196-2, EV/ZE Ready 1.4 standard. It will be covered by a 2-year warranty against production defects.

5. ENVIRONMENTAL AND SOCIAL BASELINE OF PROJECT AREA

5.1 Environmental Baseline of Project Area

This section presents the information about the environmental baseline conditions (including land use, flora and fauna, climatic features and soil quality, etc.) of the project. The current environmental baseline of the project area was assessed to understand the potential impacts and risks of the project and to develop appropriate mitigation measures.

5.1.1 Geographical Location

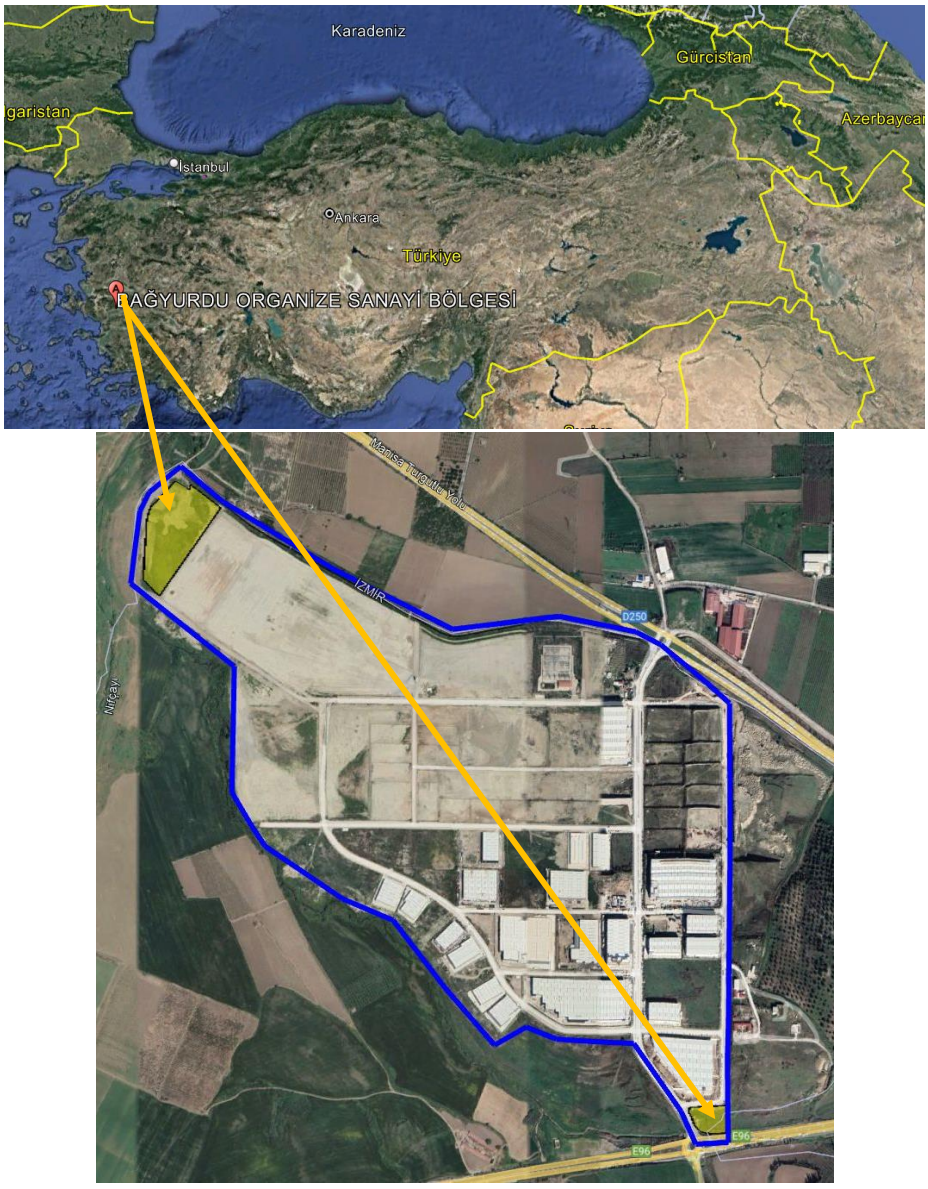


Figure 20: Geographical Location of Project Area

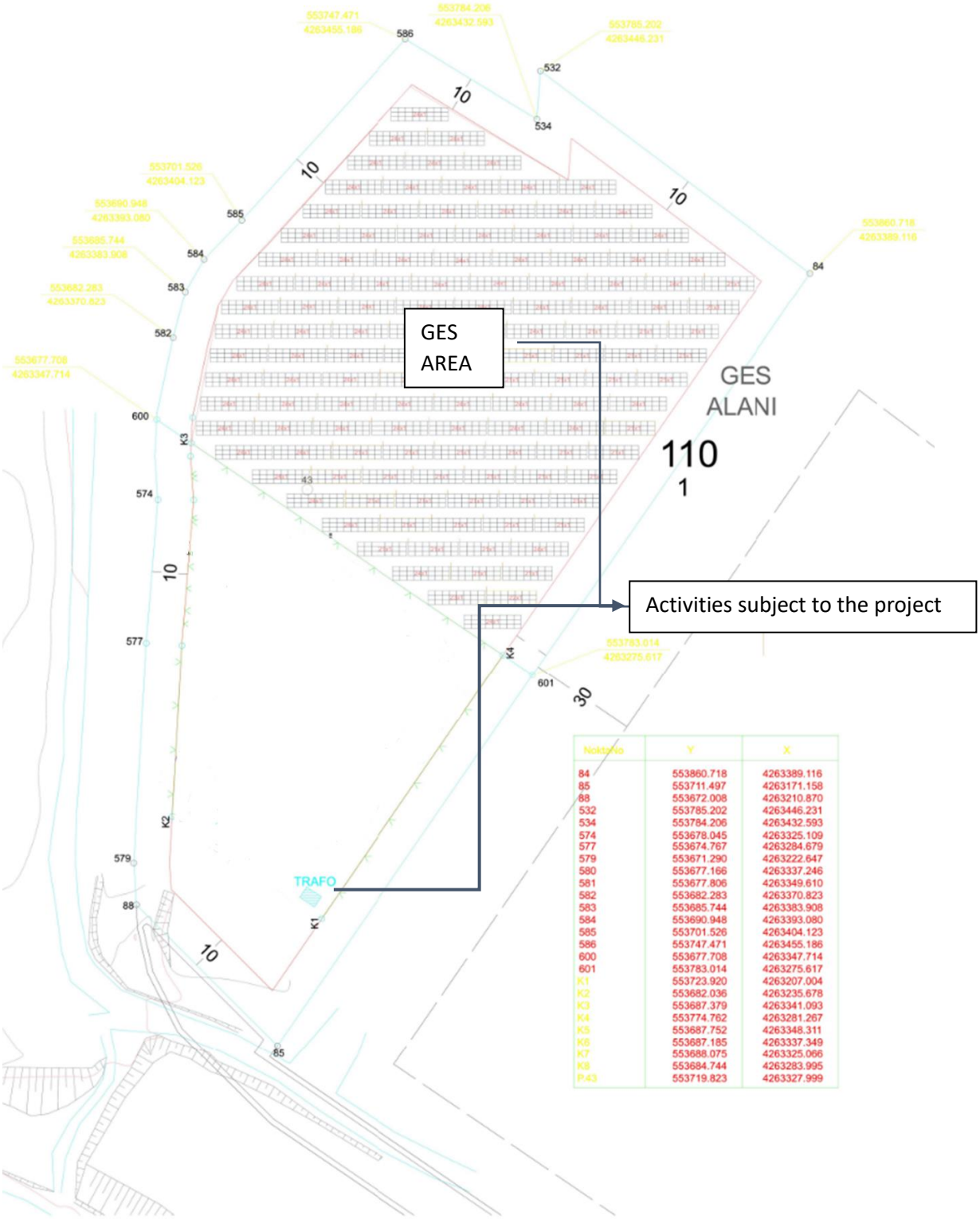
The project area is located within the borders of İzmir province, Kemalpaşa district, Bağyurdu OIZ. Kemalpaşa district, where the project area is located, is 29 km from İzmir. İzmir-Ankara highway passes from the south of the project area and the Manisa-Turgutlu highway passes from the north-east. It is

surrounded by Turgutlu in the east, Manisa in the north, Bornova and İzmir in the west, Torbalı and Bayındır in the south.

Kemalpaşa District is established on a very fertile plain between the Nif Mountains (whose highest point is 1510 meters) in the south-west and the Manisa Mountains in the north.

The most important stream of the district is Nif Stream. This stream enters the district borders from the west of Ulucak and flows from Kemalpaşa Plain to the east and pours into the Gediz River in Manisa.

Geographical location of the Project Area is shown in Figure 20 whereas Project Area application sketch is provided in Figure 21.



NoktaNo	Y	X
84	553860.718	4263389.116
85	553711.497	4263171.158
88	553672.008	4263210.870
532	553785.202	4263446.231
534	553784.206	4263432.593
574	553678.045	4263325.109
577	553674.767	4263284.679
579	553671.290	4263222.647
580	553677.166	4263337.246
581	553677.806	4263349.610
582	553682.283	4263370.823
583	553685.744	4263383.908
584	553690.948	4263393.080
585	553701.526	4263404.123
586	553747.471	4263455.186
600	553677.708	4263347.714
601	553783.014	4263275.617
K1	553723.920	4263207.004
K2	553682.036	4263235.678
K3	553687.379	4263341.093
K4	553774.762	4263281.267
K5	553687.752	4263348.311
K6	553687.185	4263337.349
K7	553688.075	4263325.066
K8	553684.744	4263283.995
P.43	553719.823	4263327.999

Figure 21 Project Area Application Sketch

5.1.2 Land Use

The Solar Power Plant (SPP) to be installed within the scope of the project will be located within the boundaries of Bağyurdu OIZ, on block 101, parcel no. 1, with an area of 29.491.62 m². However, not all of this area will be used. The SPP will be built on 18,555,44 m² of this area. The electric vehicle fast charging station is also planned on the parcel no. 27 of the 104 block, which is 5,258.47 m2 in Bağyurdu OIZ. However, the fast-charging station will not use the entire parcel, and the capacity of the charging station will be two vehicles and the total area for it will be 15 m2.

Project areas are under the ownership of Bağyurdu OIZ. There will be no additional land acquisition within the scope of the project.

5.1.3 Climate Characteristics

Summers in the Izmir region are hot, dry and clear and winters are long, cold, wet, windy and partly cloudy. During the year, the temperature normally varies between 3°C and 35°C, and is rarely below -2°C and above 38°C (see also Figure 22).

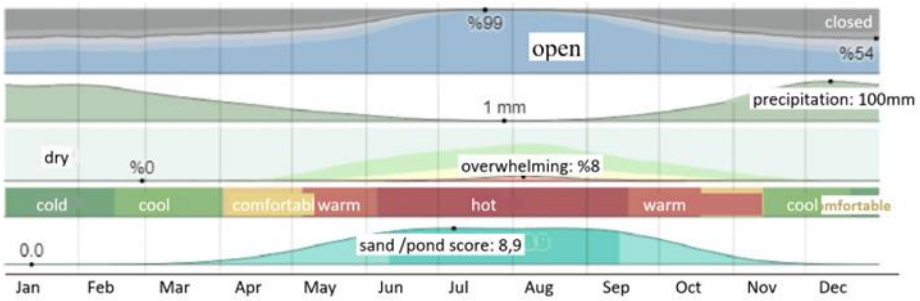


Figure 22: Izmir Monthly Weather (Average between 2014-2022) (Source: WeatherSpark.com)

The warm season is 3.2 months long and starts on June 8 and lasts until September 14, with an average daily high temperature of over 30°C. The hottest month in Izmir is July, with an average high temperature of 35°C and an average low temperature of 22°C.

The cool season is 3.9 months long and starts on November 24 and lasts until March 21, with an average daily high temperature below 16°C. The coldest month in Izmir is January, with an average low temperature of 3°C and an average high temperature of 12°C (see Figure 23).

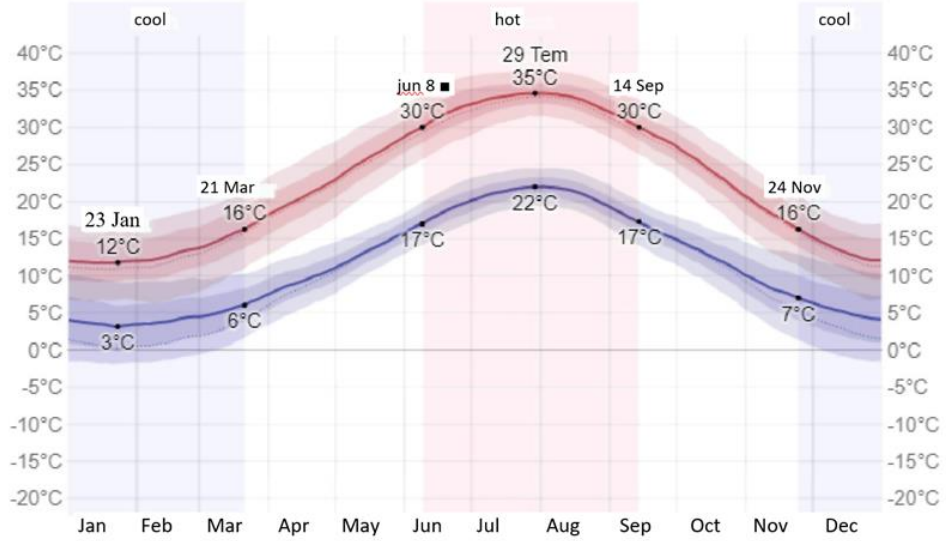


Figure 23: Izmir Region Temperature Situation (Average for 2014-2022) (Source: WeatherSpark.com)

Figure 24, shows a summary of hourly average temperatures for the whole year. The horizontal axis shows the day of the year and the vertical axis shows the time of day. The color indicates the average temperature for that hour and day.

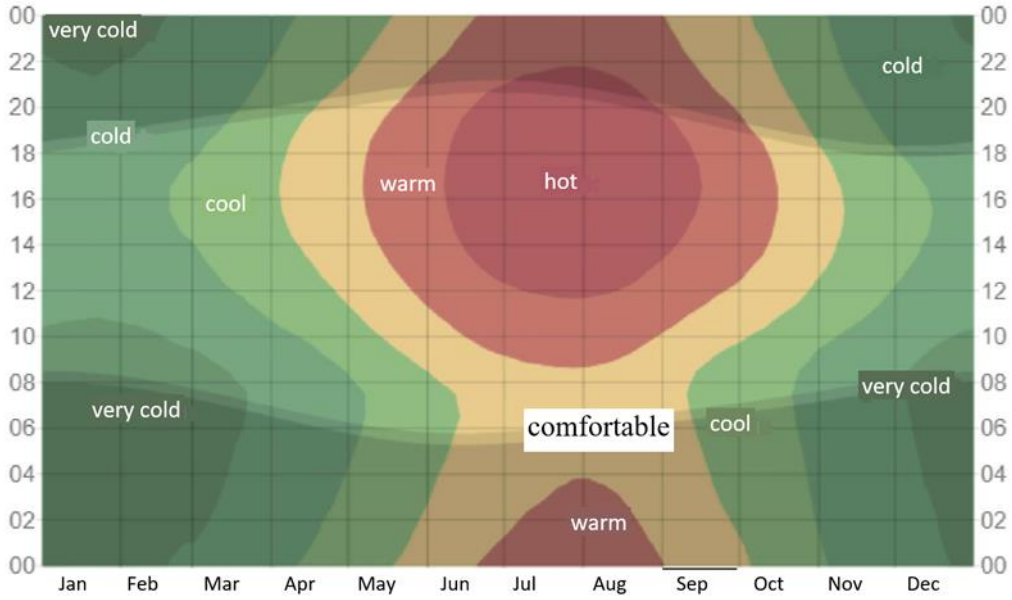


Figure 24: Izmir Average Hourly Temperature (2014-2022 Average)

Izmir day length varies considerably throughout the year. In 2022, the shortest day is December 22 with 9 hours and 29 minutes of daylight, while the longest day is June 21 with 14 hours and 51 minutes of daylight (see Figure 25).

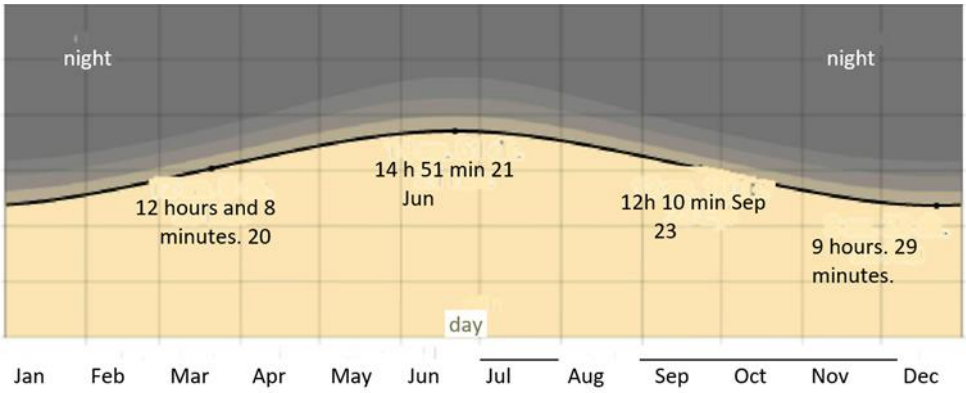


Figure 25: Daylight and Twilight Hours in Izmir region

Figure 26, represents the solar elevation (the angle of the sun above the horizon) and azimuth (compass direction) for each hour of each day during the reporting period. The horizontal axis shows the day and the vertical axis shows the time of day. The background color indicates the current azimuth of the sun for a given day and time of day. The black equivalent lines are the contours of the permanent solar elevation.

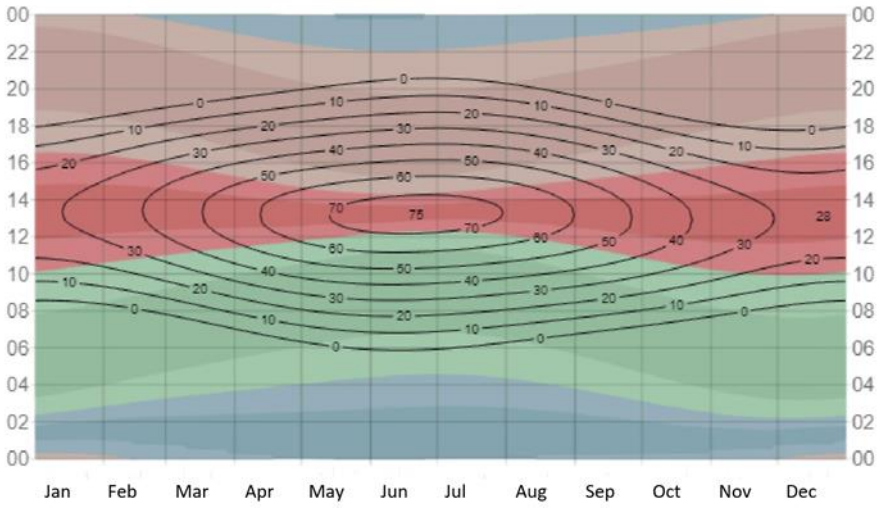


Figure 26: Solar Rise and Azimuth in Izmir

Solar Energy:

This section deals with the total daily shortwave solar energy reaching the surface over a large area, taking into account the length of the day, the height of the Sun above the horizon, and seasonal effects on absorption by clouds and other atmospheric components. Shortwave radiation includes visible and ultraviolet radiation.

Average daily shortwave solar energy shows extreme seasonal variations throughout the year.

The sunnier period of the year lasts for 3.4 months, from May 12 to August 24, with average daily incident shortwave energy above 7.1 kWh per square meter. The sunniest month in Izmir is July, with an average of 8.3 kWh during this period.

The darker period of the year lasts for 3.4 months, from November 4 to February 16, with average daily shortwave energy below 3.3 kWh per square meter. The darkest month in Izmir is December, with an average of 2.0 kWh (see Figure 27).

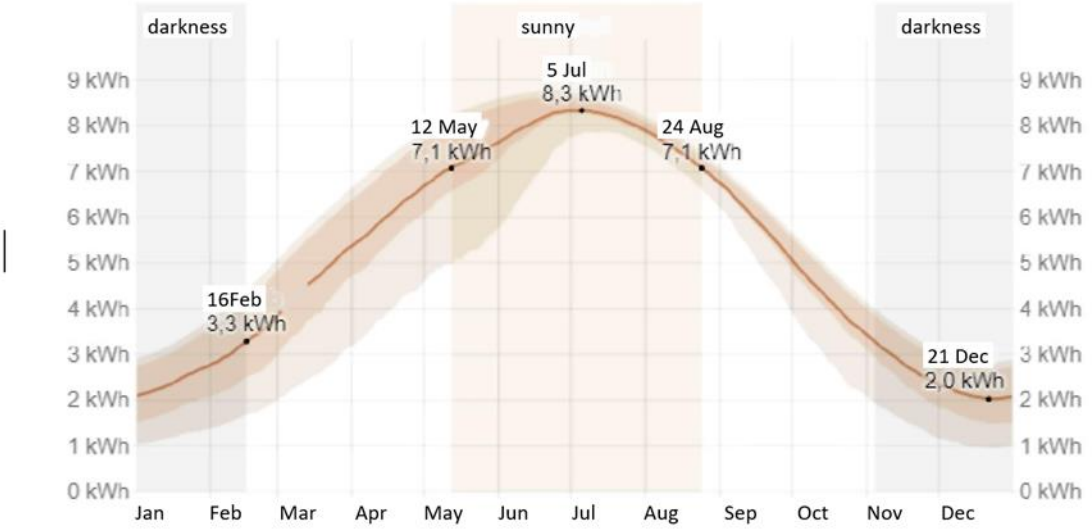


Figure 27: Daily Average Short Wave Solar Energy in Izmir Region

5.1.4 Flora and Fauna

Information on the flora and fauna species identified as a result of literature review in the region where the project areas are located is given below.

Flora

Species and Populations

Izmir Province and the project site are located in square B1 according to Davis' Grid quadratic system in our country (see Figure 28).

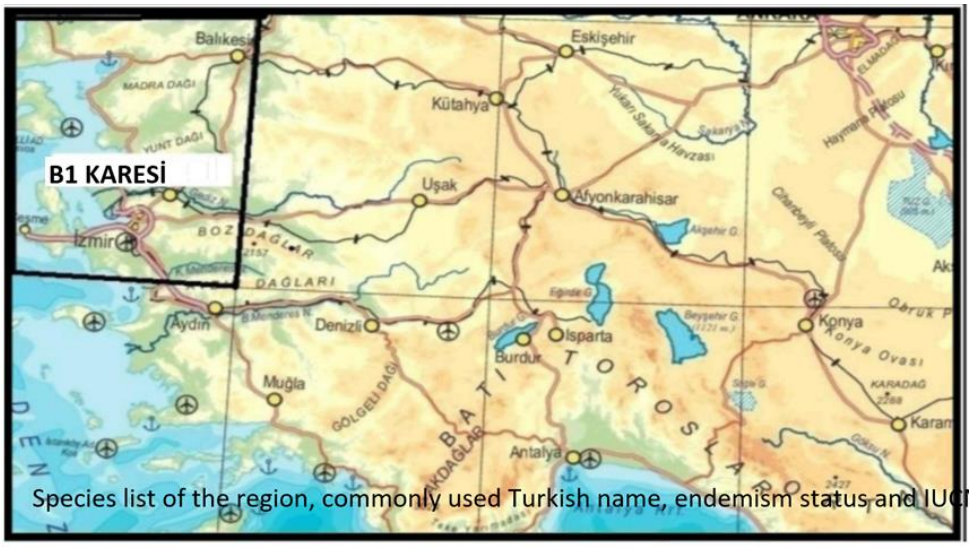


Figure 28: Location of the Project Site according to Davis' Grid Quadrature System

Hazard classes are given according to the Red Data Book (RDB) are given. Davis' 'Flora of Turkey', Prof. Dr. Ertan Tuzlacı's 'Dictionary of Plants of Turkey', Prof. Dr. Osman Ketenoğlu's 'Environmental Impact Assessment', 'Red Data Book of Turkish Plants, Ankara 2000', TUBITAK's Turkish Plants Database (TUBIVES) were also scanned, and the flora table was arranged according to these data.

Izmir Provincial State of Environment Report was also utilized. In addition, the data present in the tables were searched in the official website of the Red Data Book http://www.iucnredlist.org and their IUCN threat categories were determined.

The project area shows the typical geographical character of the Aegean region and there are no plant species in the study area that need to be protected according to the Annex-1 list of the "Convention for the Conservation of European Wildlife and Habitats (Bern Convention)" and that are included in the "Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES Convention)".

In Table 5, the floristic status of the project area and its surroundings in Izmir province is given and the plants are specified at the family and species level, their Turkish names, endemism status, habitats, minimum and maximum altitudes where they grow, and their status according to the Bern Convention and IUCN endangerment categories.

According to the risk assessment (according to IUCN and BERN) of the endemic species identified in and around the Project site; the activity is not expected to have a direct negative impact on the survival of these species.

Turkey is very rich in endemic plants because it is a transcontinental country located between Europe and Asia. Approximately 3000 plant species within the borders of Turkey have been identified as endemic. These endemic species constitute about 33% of the flora of Turkey.

The species in the project area are common herbaceous species and no endemic plant species were found as a result of the literature studies.

Table 5 Plant Species Likely to be Found in Izmir Province where the Project Area is Located

FAMILY NAME	*SPECIES NAME*	ENGLISH NAME	ENDEMISM	LIFE FORM	LIFE	PHYTOCOLOGICAL REGION	RED DATA BOOK	BERN:	HABITAT								MIN - MAX. HEIGHT
									1	2	3	4	5	6	7	8	
Apiaceae	*Sanicula europaea L.*	-	-	herbace	Perennial	Europe-Siberia	-	-	+								0-2200 m
	Echinophora tenuifolia L. sub sp. sib thorpiana (GUSS.) KEEP	Hyssop	-	Bush	Perennial	Iran-Turanian	-	-					+	+	+		0-1100 m
	Eryngium cam pestre L. var. virens LINK	Milk thistle	-	herbace	Perennial	-	-	-	+		+		+				0-1800 m
	Eryngium creticum LAM.	Eye thorn	-	herbace	One Year	Mediterrane	-	-			+		+	+			0-750 m
	Lagoecia cum inoides L.	-	-	herbace	One Year	Mediterrane	-	-			+			+	+		0-1100 m
	Scandix ib erica BIEB.	grass	-	herbace	One Year	-					+				+		500-2000 m
	Torilis leptophylla (L.) REICHB.	-	-	herbace	Perennial	-	-	-					+		+		0-2500 m
Asteraceae	*Calendula arvensis L.*	field marigold	-	herbace	One Year	-	-	-		+	+				+		0-2000 m
	Bellis perennis L.	Common daisy	-	herbace	Perennial	Europe-Siberia	-	-	+			+					0-200 m
	Centaurea urvillei DC. sub sp. urvillei DC.	-	-	herbace	Perennial	Iran-Turanian	-	-	+					+	+		0-2000 m
	Cichorium intyb us L.	Wild chicory	-	herbace	Perennial	Europe-Siberia	-	-			+		+			+	0-3050 m
	Matricaria chamom illa L. var. chamomilla L.	Chamomile	-	herbace	One Year	-	DD	-			+		+				10-50 m
	Senecio vulgaris L.	Common	-	herbace	One Year	-	-	-						+			0-700 m
Boraginaceae	*Alkanna tinctoria (L.) TAUSCH sub sp. tinctoria (L.) TAUSCH*	Dyer's alkanet	-	herbaceous	Perennial	Mediterranean	-	-		+				+	+		0-800 m
	Anchusa azurea MILLER var. azurea MILLER	herb	-	herbace	Perennial	Mediterrane	-	-					+				0-2500 m
Caprifoliaceae	*Lonicera etrusca SANTI var. etrusca SANTI*	honeysuckle	-	Bush	Perennial	Mediterrane	-	-						+			250-1200 m
Glass panulaceae	*Campanula b etonicifolia SM.*	flower	+	herbace	Two	Mediterrane	LR/Lc	-	+		+						600-1800 m
Caryophyllaceae	*Agrostem ma gracilis BOISS.*	-	-	herbace	One Year	Mediterrane	-	-			+		+		+		200-1600 m
	Dianthus calocephalus BOISS.	grenadin	-	herbace	Perennial	-	-	-		+	+		+	+	+		400-2300 m
Ericaceae	*Erica arb orea L.*	Tree heather	-	Bush	Perennial	-	-	-	+					+			0-900 m
	Arb utus unedo L.	Arbutas	-	Bush	Perennial	-	-	-	+					+			0-300 m
	Arb utus andrachne L.	Sandalwood	-	Bush	Perennial	-	-	-	+	+				+			0-800 m
Euphorbiaceae	*Euphorb ia helioscopia L.*	Euphorbia	-	herbace	One Year	-	-	-		+		+			+		0-1400 m
	Andrachne telephioides L.	-	-	herbace	Perennial	-	-	-		+					+		0-1800 m
Fabaceae	*Spartium junceum L.*	Woodwaxen	-	Bush	Perennial	Mediterrane	-	-						+	+		0-600 m
	Trifolium arvense L. var. arvense L.	Alfalfa	-	herbace	One Year	-	-	-					+				0-2300 m
	Trifolium fragiferum L. var. fragiferum L.	clover	-	herbace	Perennial	-	-	-					+	+			0-1350 m
	Genista anatolica BOISS.	-	-	Bush	Perennial	D.	-	-						+			0-1350 m
	Ononis spinosa L. sub sp. antiquorum (L.) BRIQ.	Restharrow	-	herbace	Perennial	Mediterrane	-	-	+					+	+		0-1200 m

FAMILY NAME	*SPECIES NAME*	ENGLISH NAME	ENDEMISM	LIFE FORM	LIFE	PHYTOGEOGRAPHIC	RED DATA	BERN:	HABITAT								MIN - MAX. HEIGHT
									1	2	3	4	5	6	7	8	
Fagaceae	*Quercus cerris L. var. austriaca*	Oak	-	Tree	Perennial	Europe-Siberia	-	-	+								0-1900 m
	Quercus coccifera L.	Kermes oak	-	Bush	Perennial	Mediterrane	-	-	+					+			0-1500 m
Lamiaceae	*Calamintha nepeta (L.) SAVI sub sp. glandulosa (REQ.) P: W. BALL*	-	-	herbaceous	Perennial	-	-	-	+	+		+				+	0-1200 m
	Origanum vulgare L. subsp. hirtum (LINK) IETSWAART	Black coral	-	herbaceous	Perennial	D. Mediterranean	-	-	+					+	+		0-2500 m
	Origanum onites L.	Izmir thyme	-	Bush	Perennial	D.	-	-		+					+		0-1400 m
	Salvia verbenaca L.	Sage	-	herbace	Perennial	Mediterrane	-	-			+	+		+	+		0-900 m
Lauraceae	*Laurus nob ilis L.*	Laurel	-	Bush	Perennial	Mediterrane	-	-						+			0-1200 m
	Smilax excelsa L.	Anatolian Sapanara	-	Bush	Perennial	Mediterrane	-	-	+					+			0-760 m
Loranthaceae	*Viscum album L. subsp. album L.*	Mistletoe	-	Bush	Perennial	-	-	-	+							+	300-1500 m
Oleaceae	*Olea europaea L. var. europaea L.*	Olive	-	Tree	Perennial	Mediterrane	-	-									
Pinaceae	*Pinus nigra ARN. sub sp. Pallasiana (LAMB.) HOLMBOE*	Black pine	-	Tree	Perennial	Europe-Siberia	-	-	+								300-1200 m
	Pinus sylvestris L.	pine	-	Tree	Perennial	Europe-Siberia	-	-	+						+		1000-2500 m
Poaceae	*Phleum pratense L.*	Timothy	-	herbace	Perennial	Europe-Siberia	-	-	+						+	+	420-2500 m
	Brachypodium pinnatum (L.) P: BEAUV.	tor-grass	-	herbace	Perennial	Europe-Siberia	-	-							+	+	0-2400 m
	Cynodon dactylon (L.) PERS. var. dactylon (L.) PERS.	couch	-	herbaceous	Perennial	-	-	-	+			+				+	0-3050 m
	Polygala vulgaris L.	comm	-	Bush	Perennial	Europe-Siberia	-	-						+			1650-1650 m
	Dactylis glomerata L. sub sp. hispanica (ROTH) NYMAN	milkwort	-	herbaceous	Perennial	-	-	-	+		+	+	+	+		+	0-2900 m
	Horsdeum b ulb osum L.	bulbous barley	-	herbace	Perennial	-	-	-	+			+	+		+	+	0-2250 m
	Poa bulbosa L.	tussac grass	-	herbace	Perennial	-	-	-					+		+	+	0-3000 m
Pteridaceae	*Pteris cretica L.*	Fern	-	striped-herbac	-	-	-	-				+					0-700 m
Urticaceae	*Urtica dioica L.*	Nettle	-	herbace	Perennial	Europe-Siberia	-	-	+	+		+					500-2700 m
Violaceae	*Viola tricolor L.*	Mountain violet	-	herbace	One Year	-	-	-				+		+	+		0-2200 m
	Viola odorata L.	Violet	-	herbace	Perennial	-	-	-	+								0-1600 m

1- Forested areas
2- Rocky areas
3- Roadside
4- River banks, humid areas
5- Steppe, degraded areas
6- Scrub and scrub areas
7- Especially rocky slopes
8- Meadow areas

LC: Least Concern
DD: Data Deficient

Fauna

Species and Populations

In order to determine the fauna species living or likely to live in and around the project area, a wide literature study was utilized. As a result of this study, the Red Data Book Category of each species, the 'Central Hunting Commission Decisions of the Ministry of Agriculture and Forestry for the 2021-2022 Hunting Period' and the additional lists of the Bern Convention are indicated in the tables below. (see Table 6, Table 7, Table 8)

Individuals of amphibians and reptiles found and likely to be found in Izmir Province, where the project areas are located, were evaluated in terms of reproduction. These species can produce dozens of individuals during their reproductive period. Therefore, the lives of individuals will not be endangered by the activity and there will be no extinction.

Table 6 Amphibian Species Possibly Found in Izmir Province

FAMILY NAME	SPECIES NAME	ENGLISH NAME	IUCN	BERN:	DISTRIBUTION
Bufonidae	*Bufo viridis*	European green toad	LC	ANNEX-2	Whole Turkey
Hylidae	*Hyla arborea*	Tree frog	LC	ANNEX-2	Western and Northern Anatolia
Pelobatidae	*Pelobates syriacus*	Earth frog	LC	ANNEX-3	Eastern Thrace
Ranidae	*Rana macrocnemis*	Striped frog	LC	ANNEX-3	Western and Central Anatolian mountains
Salamandridae	*Ommatotriton vittatus*	scalloped newt	LC	ANNEX-3	Northern Anatolia, Gaziantep, Hatay, Adana, Bursa, Izmir

LC: Least Concern

Table 7 Reptilia likely to be found in Izmir Province

FAMILY NAME	SPECIES NAME	ENGLISH NAME	IUCN	BERN:	DISTRIB
Testudinidae	*Testudo graeca*	Common tortoise	VU	ANNEX-2	Almost all of Turkey
Typhlopidae	*Typlops vermicularis*	Blind snake	-	ANNEX-3	It is found in Large part of Turkey
Colubrıdae	*Elaphe situla*	Zamenis situla	LC	ANNEX-2	Whole Turkey
	Elaphe quatu orlineata	The four-striped	NT	ANNEX-2	Whole Turkey
	Natrix tesellata	Water snake	NT	ANNEX-3	Whole Turkey
	Eirenis modestus	ring-headed dwarf	LC	ANNEX-2	Whole Turkey
	Natrix natrix	ringed water snake	LC	ANNEX-3	Whole Turkey
Gekkonidae	*Cyrtopodion kotschyi*	Slender-toed	LC	ANNEX-2	Whole Turkey
Scincidae	*Ablepharus kitaibeili*	Slender lizard	LC	ANNEX-2	It is widespread in Western Anatolia, Thrace and Central
Lacertidae	*Lacerta viridis*	Green lizard	LC	ANNEX-2	It lives on the Thrace, Northwestern Anatolia and
	Lacerta saxicola	Rock lizard	LC	ANNEX-3	It is found in Large part of Turkey

VU: Vulnerable
LC: Least Concern
NT: Near Threatened

Table 8 Mammal (Mamalia) Species Detected in Izmir Province

TEAM - FAMILY NAME	SPECIES NAME	ENGLISH NAME	IUCN	BERN:	AVK
Felidae	*Felis silvestris*	Wildcat	LC	ANNEX-3	-
Mustelidae	*Martes foina*	Rock marten	LC	ANNEX-3	ANNEX-2
	Vormela peregusna	Marbled polecat	VU	-	-
Muridae	*Mus domesticus*	House mouse	LC	-	-
	Apodemus flavicollis	Forest mouse	LC	-	-
	Rattus rattus	House rat	LC	-	-
Sciuridae	*Spermophilus citellus*	Field squirrel	VU	ANNEX-2	-

	Sciurus vulgaris	Squirrel	LC	ANNEX-3	-
Splacidae	*Spalax leucodon*	Blind rat	DD	-	-
Soricidae	*Sorex araneus*	Forest shrew	LC	ANNEX-3	-
	Sorex minutus	Eurasian pygmy shrew	LC	ANNEX-3	-
	Crocidura russula	white-toothed shrew	LC	ANNEX-3	-
Erinaceidae	*Erinaceus concolor*	Hedgehog	LC	ANNEX-3	-
Talpidae	*Talpa caucasica*	Mole	LC	-	-
Vespertilionidae	*Pipistrellus pipistrellus*	Dwarf bat	LC	ANNEX-3	-
Molossidae	*Tadarida teniotis*	Tailed bat	LC	-	ANNEX-1
Leporidae	*Lepus europaeus*	Hare	LC	ANNEX-3	ANNEX-2

VU: Vulnerable
LC: Least Concern
DD: Data Deficient

The project area is not located on bird migration routes. The bird migration routes identified in Turkey are given below.

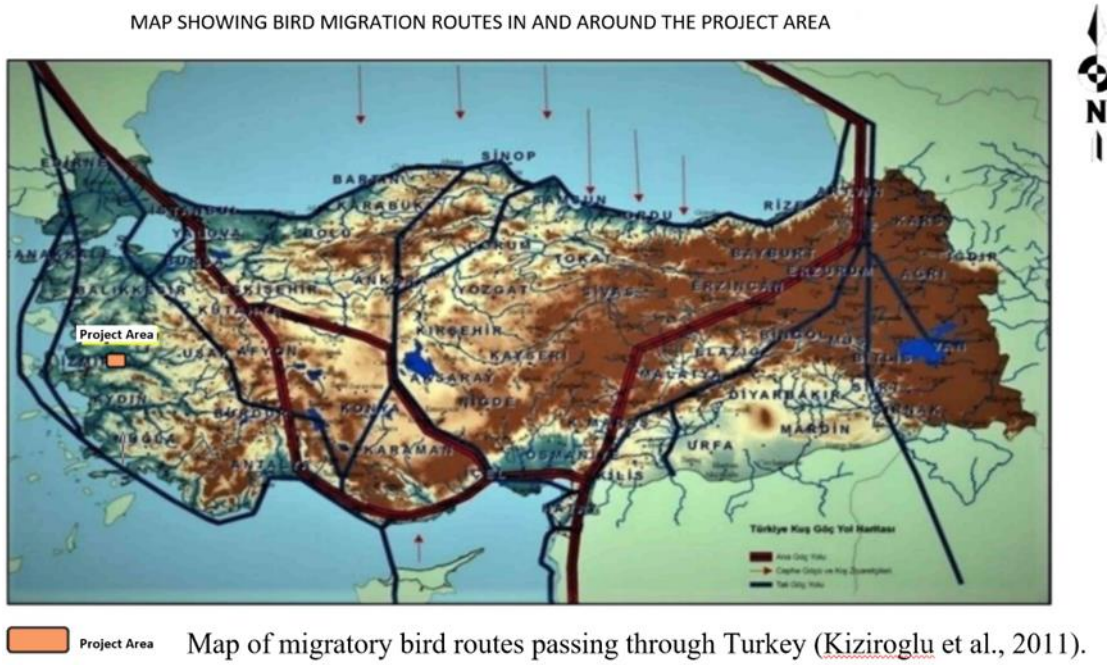


Figure 29: Turkey Bird Migration Routes Map

The orthino fauna (bird list) of the activity area consists of bird species present and likely to be present in the area. Although the status of the detected bird species in the area is different, they were also evaluated according to the Red Data Book classification and Central Hunting Commission Decisions and presented in Table 9.

Table 9 Bird (Aves) Species Detected in Izmir Province and Surroundings

FAMILY	SPECIES NAME	ENGLISH NAME	REGION STATUS	BERN:	RDB	AVK
ACCIPITRIDAE - Peckers	*Accipiter gentilis*	Jackdaw	L	ANNEX-3	A-3	-
	Milvus milvus	Red rookie	Y,T	ANNEX-3	A-3	-
VULTURIDAE - Vultures	*Gypaetus barbatus*	Bearded Vulture	G,Y	ANNEX-3	A-2	-
FRINGILLIDAE - Finches	*Carduelis carduelis*	Saka	L	ANNEX-2	A-4	-
	Fringilla coelebs	Finch	L	ANNEX-3	-	ANNEX-1
	Carduelis chloris	Greenfinch	L	ANNEX-2	A-4	-
STURNIDAE - Starlings	*Sturnus vulgaris*	Starling	G	-	-	ANNEX-1
CORVIDAE - Crows	*Pica pica*	Magpie	L	-	-	ANNEX-2
	Corvus corax	Raven	L	-	A-4	ANNEX-1
	Corvus monedula	Little crow	L	-	A-4	ANNEX-2
	Corvus frulilegus	-	Y, KZ	-	A-4	ANNEX-2
	Garrulus glandarius	-	G	-	-	ANNEX-2
SITTIDAE - Nuthatches	*Sitta europea*	-	L	ANNEX-2	-	-
PARIDAE -Monarchs	*Parus ater*	-	L	ANNEX-2	-	-
REMIZIDAE - Sandpipers	*Remiz perdulinus*	-	L	ANNEX-3	A-2	-
SYLVIDAE - Warblers	*Remiz perdulinus*	-	L	ANNEX-3	A-2	-
MOTACILLIDAE -Wagtails	*Cettia cetti*	-	L	ANNEX-2	A-4	-
	Anthus spinoletta	-	L	ANNEX-3	A-4	-
	Motacilla cinerea	-	L	ANNEX-3	A-4	-
COLUMBIDAE - Pigeons	*Streptopelia*	-	L	ANNEX-3	-	ANNEX-1
	Columba livia	-	L	ANNEX-3	-	ANNEX-2
ALAUDIDAE - Hooves	*Alauda arvensis*	-	L	ANNEX-3	-	ANNEX-1
TURDIDAE - Blackbirds	*Turdus merula*	-	L	ANNEX-3	-	ANNEX-2
PRUNELLIDAE - Mountain warblers	*Prunella collaris*	-	Y,KZ	ANNEX-3	A-4	-
CHARADRIIDAE -Rainbirds	*Vanellus vanellus*	-	L	ANNEX-3	A-4	Annex-1
PICIDAE Woodpeckers	*Dendrocopos minor*	-	L	ANNEX-2	A-4	-

L: Literature H: Habitat Suitability G: observation
Y: Common Endemic T: Transit type KZ: winter visitor
A-2: in great danger A-3: exposed to danger A-4: Potentially threatened

Although there is information on the flora and fauna of Izmir province and its immediate surroundings mentioned above in the literature, there are currently no flora and fauna species in the project area. The fact that the project area is an industrial area has also been decisive in this regard (see Figure 30, Figure 31, Figure 32, Figure 33).

Even though tortoise (Testudo graeca) categorized as “VU” according to IUCN, it is a widely spread reptile species found in every region except the Eastern Balack Sea region in Türkıye. It is generally found in dry, stony and sandy terrains

Flora and fauna literature information of İzmir province and its surroundings, where the project area is located, is given above. However, in the Project area, infrastructure and land preparation works were carried out during the OIZ formation. As it was determined in the field observations, there are no endemic or sensitive flora and fauna species in the project area. Images of the Project Area are given in Figure 30, Figure 31, Figure 32, Figure 33. In these images, it is seen that there are no flora and fauna species on the project area.

Figure 30: Current (02.11.2022) View of the Project Area (Flora-Fauna)-1

Figure 31: Current (02.11.2022) View of the Project Area (Flora-Fauna)-2

Figure 32: Current (02.11.2022) View of the Project Area (Flora-Fauna)-3

Figure 33: Current (02.11.2022) View of the Project Area (Flora-Fauna)-4

5.1.5 Project Area Surroundings

The Project Area is located in the Organized Industrial Zone area, but since it is the last parcel of the OIZ, it is adjacent to non-OIZ parcels. Neighboring parcels outside the OIZ are agricultural areas. Although the project is not expected to have an impact on neighboring parcels due to its nature, it is under pressure from neighboring parcels. Nif Stream passes near the project area. Nif stream passes through residential areas and industrial areas until it reaches this area. Water quality deteriorates due to inappropriate discharges in these areas.

In the observations made in the Nif Stream around the project area, it can be seen that the water quality is not suitable in terms of color and odor. The location of Project Area and Nif Stream is shown in

Figure 34.

Figure 34: Project Area (SPP) and Nif Stream

5.1.6 Sensitive and Protected Areas

There are no sensitive or protected areas designated by national legislation and international conventions around the Project area. The fact that the project is designated as an OIZ area in the plans is evidence in this regard. In addition, there is no known protected cultural property in the project area.

There are also no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction Sites) within the Project Area and its vicinity.

However, in line with the literature research, the closest National Park to the project area is Spil Mountain National Park, 11.10 km away. The closest wetland to the project area is the Marmara Lake Wetland, 26.2 km away. The nearest wildlife development area is Ovacik Wildlife Development Area, 14.5 km away (Figure 35).

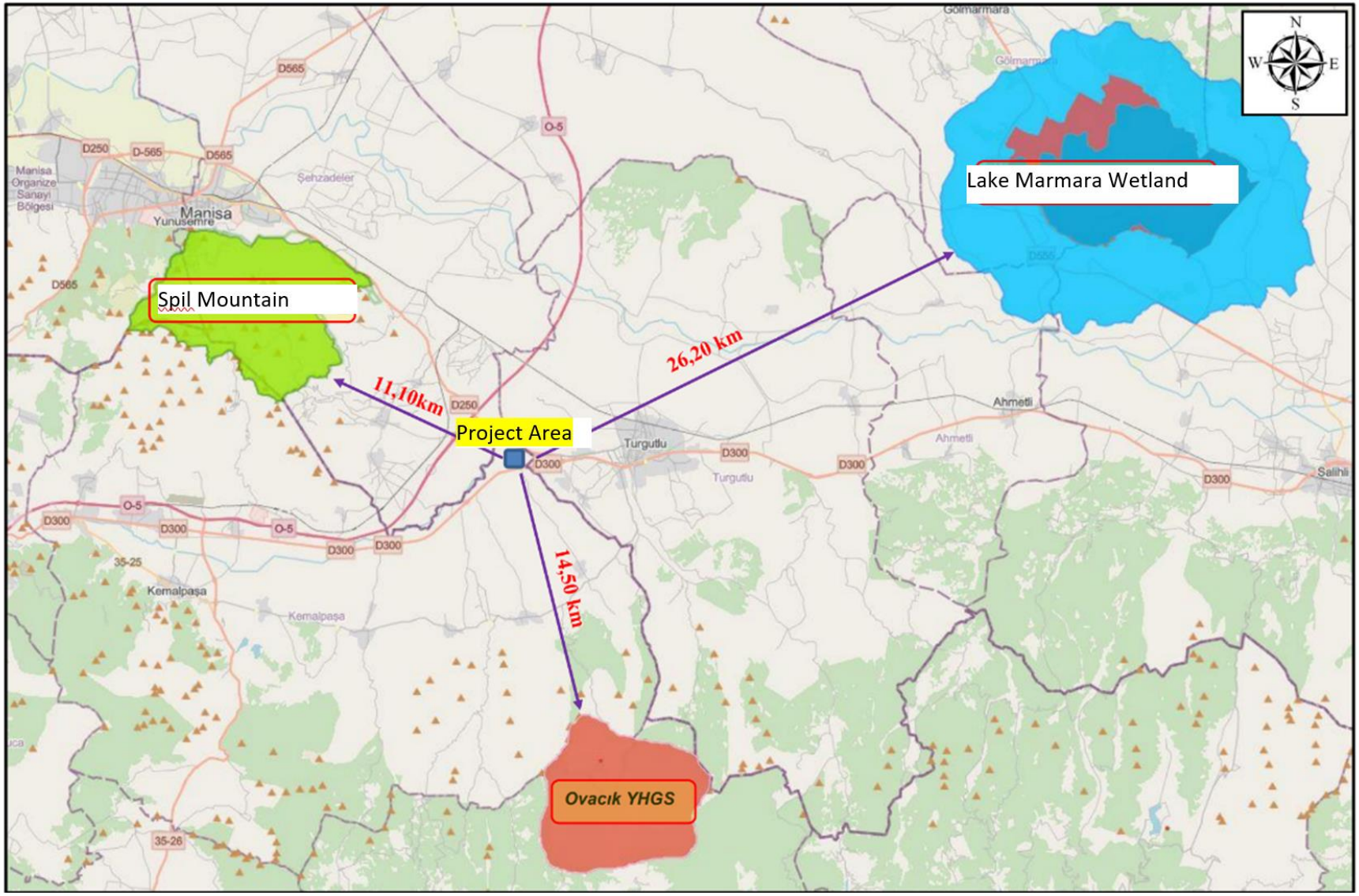


Figure 35: Sensitive and Protected Areas Map

5.1.7 Current Status of the Project Area

The project area is currently an empty parcel within the boundaries of Bağyurdu OIZ. It is reserved as Treatment Plant area in the OIZ Zoning Plan. Arrangements were also made for this parcel during the land arrangements and infrastructure works (see Figure 36).

There is no vegetation in the project area. It has the appearance of clay soil. However, the parcel is the last parcel on the border of the OIZ. For this reason, there are agricultural areas within the neighboring parcels and the Nif Stream passing around the OIZ.

Crops such as tomatoes, grapes and peaches are grown in neighboring parcels outside the OIZ . For this reason, there is no activity around the project area that will adversely affect the air quality of the project area. In addition, there are no activities that will adversely affect the air quality in the industrial parcels around the project area.

Nif Stream passes near the project area. Nif stream passes through residential areas and industrial areas until it reaches this area. Water quality deteriorates due to inappropriate discharges in these areas.

Based on the observations made in the Nif Stream around the project area, it can be seen that the water quality is not suitable in terms of color and odor.

Although the project area is within the boundary parcels of the OIZ, both the Nif Stream and the DSİ irrigation canal form a natural embankment. Therefore, it prevents access to the project area from outside the OIZ. In addition, the protection bands of these areas create a distance between the project area and the neighboring parcels.

Factory construction is still ongoing in the neighboring parcel of the project area within the OIZ. There is a distance of approximately 40 m from this parcel due to the parcel protection bands. In addition, there is approximately 2 m elevation difference with this parcel. The existing noise in the Project area is caused by the construction on the neighboring parcel.

Figure 36: Current Status of the Project Area

5.1.8 Soil Quality

The existing soil in the project areas is filled with soil due to the land arrangement and infrastructure works during the OIZ formation. There is no natural vegetation. The general soil structure of the region is also clayey soil.

There is no waste dumping site or any unreduced waste storage area in and around the project area. Therefore, there is no possibility of leakage that may cause soil pollution.

There are no activities that may cause soil pollution during the construction and operation phase of the project. Waste that may occur during the construction phase will not be stored on site.

No soil pollution has been encountered in the project area, either in the present or in the past.

5.2 Social Baseline of the Project

In this section, the socio-economic baseline conditions of the project area has been provided and assessed in order to understand potential impacts and risks of the Project on the social environment and to be able to develop appropriate mitigation measures.

The social baseline identifies key socio-economic issues of provincial and local communities and establishes a socio-economic database that can be used to monitor changes on affected communities.

The data presented under this section is collected and compiled through desktop studies.

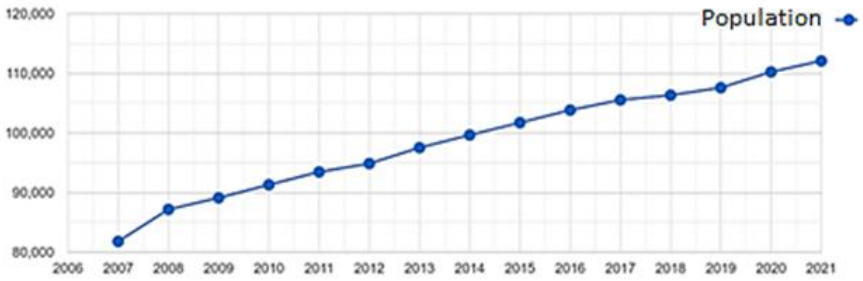
5.2.1 Demography and Population

The project area is located within the borders of Kemalpaşa district of Izmir province. Population information of Kemalpaşa district is given in Table 10 whereas population growth of the Project Area is shown in Graphic 8.

Table 10 Project Area Population Information

Year	Population	Male Population	Female Population	Increase Rate
2021	112049	56978	55071	1,656
2020	110209	55918	54291	2,437
2019	107556	54758	52798	1,177
2018	106298	53975	52323	0,748
2017	105506	53575	51931	1,624
2016	103806	52709	51097	2,057
2015	101693	51607	50086	2,054
2014	99626	50552	49074	2,158
2013	97499	49572	47927	2,775
2012	94831	48073	46758	1,487

Source: TurkStat, 2021(https://biruni.tuik.gov.tr/medas/?kn=95&locale=tr)



Graphic 8: Population Growth for the Project area

The structural characteristics of the population in Kemalpaşa are changing as a result of the industrialization process. Kemalpaşa, which was an agricultural town for years, has moved away from this identity with industry. The age structure of the population has changed with migration, and while the child and adult population has increased, the proportion of elderly population has increased at the same rate.

According to the results of the general census of 2021, the total population of Kemalpaşa District of Izmir Province is 112,049. It is seen that the population of Kemalpaşa district has increased compared to previous years. This population consists of 56,978 (50.85%) men and 55,071 (49.15%) women. Kemalpaşa population increased by 2,021% or 1,840 people compared to the previous year.

Kemalpaşa district is exposed to intensive migration due to its structure being suitable for development, its location in the mass housing area and industrial developments. In this respect, problems such as infrastructure, economic inadequacies, health and literacy negatively affect social life.

5.2.2 Means of Livelihood and Employment

According to Kemalpaşa district governor's data; the livelihoods of the district are agriculture, animal husbandry and industry. 60% of the district's population is engaged in agriculture and animal husbandry, while 40% work in the many industrial facilities and fattening farms established within the borders of the district[1].

The demographic structure of the region's employees shows that the majority of blue-collar employees are from Turgutlu, Kemalpaşa and Izmir, while white-collar employees are mostly from Izmir

5.2.3 Education

Although schooling rates of nearly 100% in primary education and 40% in pre-school education have been reached, the rate and speed of formation of urban culture is very low due to rapid migration. The level of education in the district is high and the literacy rate is 99%. There are 74 schools in the district, including 2 Kindergartens, 35 Primary Schools, 25 Secondary Schools and 12 High Schools[2].

[1] http://www.kemalpasa.gov.tr/kemalpasa-tarihi-ve-cografi-yapi
[2] Data for 2015-2016 (Source: T.R. Kemalpasa District Governorship- Web page Primary data http://www.kemalpasa.gov.tr/kemalpasa-tarihi-ve-cografi-yapi

5.2.4 Vulnerable Groups

Since the project area is far from settlements, schools and health institutions, there are no vulnerable groups that may be adversely affected by the project.

The following assessments have been made in terms of the social background of the project. The Project Area is located within Bağyurdu OIZ and there are no settlements in the vicinity. The closest settlement to the project area is Çepnidere village (see Figure 37 and Figure 38).

The project area is located at 62 m. It is an illegal shed. The person who controls the agricultural lands around the project lives here. This building is taken as a basis when calculating liabilities and usage. Likewise, information was given about the project and complaints.

5.2.5 Sensitive Receptors

The Project area is located in an industrial area and is surrounded by industrial and agricultural areas. There are no units where vulnerable people such as schools, hospitals, kindergartens, elderly care homes, etc. are located in the vicinity of the project area.

There are no sensitive receptors around the Project area. In this context, the closest sensitive receptors are located in Turgutlu district. Turgutlu State Hospital is 5900 m away as a sensitive area. Karpuz Kaldıran Park can be considered as a sensitive receptor, but it is 7050 m away.

5.2.6 Health Organizations

The biggest health institution in the region is Kemalpaşa State Hospital. Apart from this, there are family health centers.

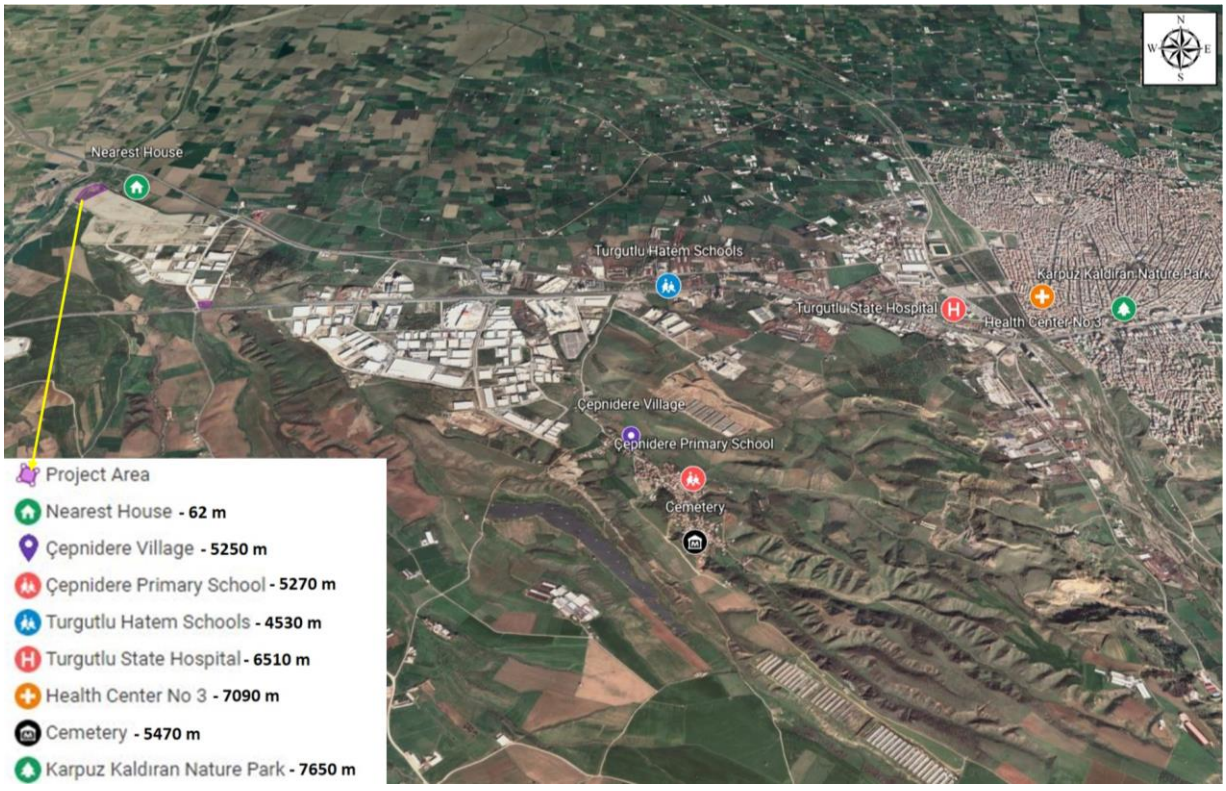


Figure 37: Sensitive Receptors Map showing the SPP Project Area and Vicinity

Figure 38: Sensitive Receptors Map showing the Fast Charging Project Area and Vicinity

5.2.7 Cultural Heritage

There is no known cultural heritage in and around the project area.

5.2.8 Traffic and Transportation

It will not have a negative impact in terms of traffic since high tonnage materials will not be transported during the construction and operation phase of the project, the project area has highway access, and it will not pass through the settlements. General mitigation measures such as driver training, speed limits, limiting unnecessary use of noisy equipment, etc. are considered to be sufficient to minimize traffic impacts.

6. ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

6.1 Impact Area

The definition of the area that may be affected by the project is defined in the definitions section of the Environmental Impact Assessment Regulation as follows "The area affected by a planned project before, during and after its operation".

The impact area can be different for different types of impacts and different environmental components (physical, biological, social).

Impact area is defined in IFC Performance Standard 1 (Assessment and Management of Environmental and Social Risks and Impacts) as:

"Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts. Environmental and social risks and impacts will be identified in the context of the project's area of influence. This area of influence encompasses, as appropriate:

- The area likely to be affected by: (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project; (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.
- 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.
- Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted."

The impact area of the project was evaluated from the closest to the farthest. In this context, first of all, the location of the Project Area in the OIZ is given in Figure 39. Then, the parcels adjacent to the project area were evaluated (see Figure 40 and Figure 41). In Figure 41, the closest settlements likely to be affected by the project are given.

In this context, it is considered that the project impact area will be limited to the project parcel and the Organized Industrial Zone when evaluated in terms of the location, construction type and process. The fact that a new route will not be opened for transportation to the project area and the existing infrastructure will be used plays an active role in this idea.

Although not legally registered near the project area, there is a temporary structure for the security of neighboring agricultural lands. This area has been taken into account especially in the noise calculation.

The GM will be accessible starting from the very beginning of the Project and will be active during the life of the Project. The GM will be accessible to a broad range of Project stakeholders who are likely to be affected directly or indirectly by the project. The mechanism by which the project affected persons, including the workers working in the project, will report their complaints will be open on the basis of Bağyurdu OIZ, MoIT and CIMER. The contractor will also establish the grievance mechanism for the workers. Detailed information and contact information about the grievance mechanism are given in Section 9.

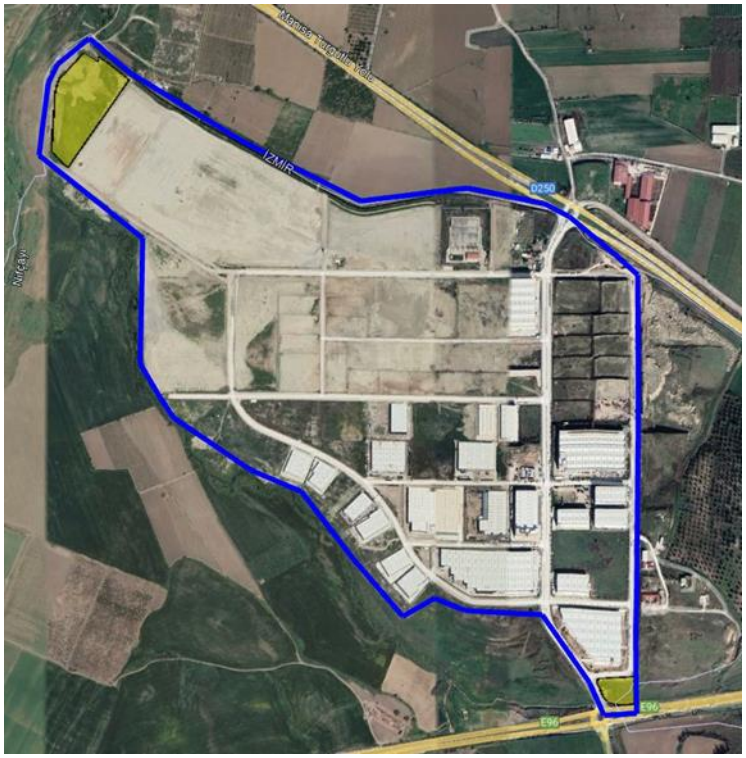


Figure 39: Satellite View of the Project Area (Near Surroundings)

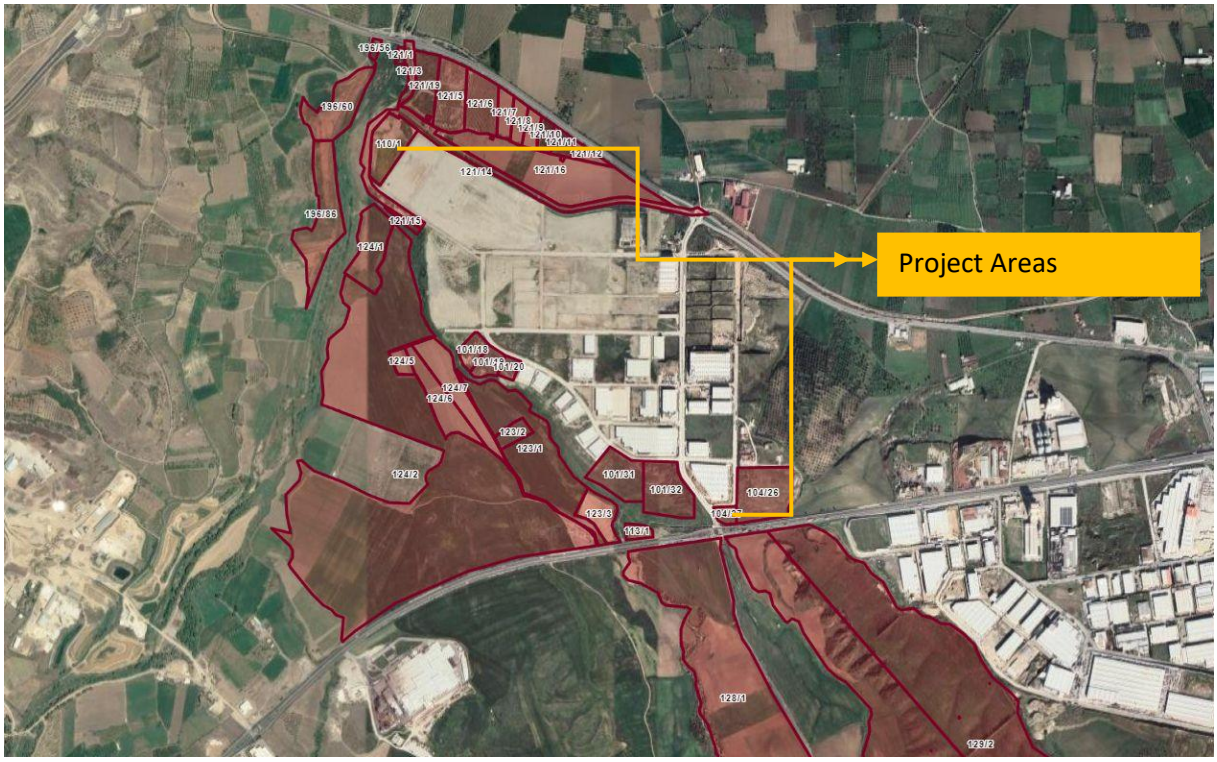


Figure 40: Project Impact Area

Planned Project area

It is scale-free.

Figure 41: Project Impact Area-1

Table 11 Property Information around the Project Area

Block	Parcel	Area (m2)	Qualification	Current situation	Ownership
121	1	2.202,08	Field	No Agriculture	Bağyurdu OSB
	2	2.324,29	Field	No Agriculture	
	3	8.264,41	Irrigation Canal-Service Road	DSI Canal and Road	DSİ
	4-19	24.424,42	Vineyard	No Agriculture	Bağyurdu OSB
	5	31.215,14	Vineyard	Peach Tree Available	Private land
	6	28.181,04	Vineyard	Peach Tree Available	Private land
	7	10.727,26	Field	Vineyard and Field	Private land
	8	8.957,27	Peach Orchard	Vineyard and Field	Private land
	9	8.274,81	Vineyard	Field	Private land
	10	6.936,56	Vineyard	Field	Private land
	11	7.999,58	Peach Orchard	Field	
	12	6.356,06	Peach Orchard	Field	
	13(16)	102.943,79	Field	Field	Private land
	14	52.004,14	Irrigation Canal-Service Road	Irrigation Canal	DSİ
	15	2.390,82	Field	Field	Private land
124	1	34.811,54	Field	Field	
	2	675.286,99	Vineyard and Field with a Carved House	Field	Private land
196	56	2.196,69	Vineyard	Field	Manisa Land Registration Area
	58	1.259,91	Field	Field	
	60	38.241,95	Raw Soil	Raw Soil	
	86	53.229,12	Raw Soil	Raw Soil	

Source: Official land registry and parcel records

6.2 Impacts on the Physical Environment

In this section; potential impacts to be caused by the Project's construction and operation activities on soil quality, air quality, water resources quality, noise level and waste management were investigated. The anticipated visual impact of the project is also mentioned. Furthermore, estimated calculations on air pollution emission, noise level increase and water usage due to construction and operation activities are detailed. Then, the calculated values are compared with the most strict limit values of national legislation and WBG EHS guidelines to assess potential impacts.

6.2.1 Soil, Land Use and Landscape

6.2.1.1 Construction Stage

The project area is a flat land. There is no elevation difference. However, during the adjustment of the panel legs and the angles of the panels, the ground will be leveled. No excavation soil will come out during this phase. Therefore, there will be neither excavation soil to be disposed of nor vegetative top-soil loss.

The legs of the solar panels will be mounted on the land by hammering (see Figure 42) for the machinery to be used). There will be no land acquisition for the project. Soil taken during cable line laying and transformer building ground preparation will be used again for land leveling. According to the static report prepared, concrete pouring will not be made for the panel legs since the ground in the project area is suitable for graveling. The Project is not expected to have an impact on soil either in the Project area or in the vicinity of the Project area.

In terms of land use, the entire project has been allocated as an industrial zone and its ownership belongs to the Bağyurdu OIZ Directorate. It will be realized in the treatment parcel belonging to Bağyurdu OIZ Directorate. Since transportation to the project area will be provided from the existing roads within the OIZ, there will be no land use for transportation purposes. Within the scope of the project, 18,555.44 m² of land will be used within the 29,491.62 m² land owned by Bağyurdu OIZ Directorate.

Landscaping will not be done in the project area. The land will be preserved in its current state and solar panels will be placed on it. Therefore, there will be no landscaping.

Figure 42: Machine to be Used for Fastening Panel Legs

The Electric Vehicle Fast Charging Station of the project will be established on the vacant land at the entrance of the OIZ. (see Figure 43). The fast-charging station will not use the entire parcel, and the capacity of the charging station will be two vehicles and the total area for it will be 15 m2. There will be no excavation or soil loss in this area.

Figure 43: Fast Charging Station Area

6.2.1.2 Operation Stage

As in the construction phase, no negative impact is expected on soil in and around the project area during the operation phase. Since there will be no waste generation, air emissions or wastewater discharge during the operation of solar power plant, no soil contamination or pollution is expected.

Likewise, there will be no changes or additions to land use and landscaping during the operation phase.

Since the entire project area belongs to Bağyurdu OIZ Directorate, there will be no land purchase or expropriation.

6.2.2 Air Pollution

6.2.2.1 Construction Stage

Emissions during the construction of the Project will be generated from the fuels used in construction machinery and transportation vehicles. The calculation of the emissions from the fuels of the construction machinery and transportation vehicles to be used is given below.

Gas Emissions from Vehicles:

Within the scope of the activity, 1 mobile pile driving machine, 1 truck and 1 mobile crane will be used in the area where solar panels will be installed. Dust and gas emissions will be generated from the machinery to be used in this scope. Machinery and equipment specifications to be used during the construction phase is given in Table 12.

Table 12 Machinery and Equipment Specifications to be used during the Construction Phase

Unit	Engine Power (HP)	Working Hours
Truck (1 piece) *	165 HP	8
Mobile Pile Driving Machine (1pcs) **	47 HP	8
Mobile Crane (1 unit)	165 HP	8

Source:
*Medium Dump Truck-18Ton 165HP Diesel Engine, Vehicle Catalog

** Mitsubishi-34.6 kW-S4Q2 Model (CPA Certification Tier IIIA), Vehicle Catalog

Diesel fuel will be used as fuel for the work machines to be used. The properties of diesel fuel are given below.

Table 13 Characteristics of Vehicle Fuel to be Used During the Construction Phase

Features	Diesel
Appearance	Liquid
Colour	Yellow-pale straw color
Odor	Characteristic
Boiling Point (°C)	170-390
Relative Density (15°C) kg/m3	820-845
Vapor Pressure (20°C)kPa	0.01
Viscosity (40°C) cSt	2-4.5
Spontaneous ignition temperature (°C)	220
Flammability Limit	Alt: 1%(V) - Top: 5%(V)
Lower heating value*	10.200 kcal/m3

Source: Petrol Ofisi A.Ş., Diesel SDS, 20.07.2017
* https://enerji.gov.tr

The diesel fuel requirement for the running vehicle is calculated approximately from the formula below.

Fuel Consumed = HP x Run Time x 0.18
Fuel Consumed = (165 + 47 + 165) x 1 hour x 0.18
Fuel Consumed = 68 lt/hour

Emission factors used in the calculation of gas emissions are provided in Table 14.

Table 14 Emission Factors of Emitted Pollution from Diesel Vehicles

Pollutant	Diesel (kg/ton)
NOx	0,081
CO	0,017
SOx	0,005
PM	0,006
TOC	0,006

Source: https://www.epa.gov/sites/default/files/2020-10/documents/c03s03.pdf (Table 3.3-1)

Within the scope of the Project, the provisions of the Regulation on the Control of Industrial Air Pollution (Table 2.2 Air Quality Limit Values in the Plant Impact Area given in Annex 2) published in the Official Gazette dated 03.07.2009 and numbered 27277 and the Regulation on Air Quality Assessment and Management published in the Official Gazette dated 06.06.2008 and numbered 26898 and the "Regulation on Exhaust Gas Emission Control and Gasoline and Diesel Fuel Quality" published in the Official Gazette dated 30.11.2013 and numbered 28837 will be complied with.

Construction Phase Dust Emission from the Site:

During the construction phase of the Project, dust emissions from dirt roads during the movement of transport vehicles on site are also expected. The calculation of dust emissions expected to occur during the construction phase of the Project is also given below.

The dust emission expected to be generated by the movement of vehicles in the project area during the construction phase of the Solar Power Plant within the scope of the project are calculated by using the emission factors provided in Table 12.6 of Annex 12 of the Regulation on the Control of Industrial Air Pollution, which entered into force after being published in the Official Gazette dated 03.07.2009 and numbered 27277. Accordingly, dust emissions that will occur in case of controlled and uncontrolled work in the project area have been calculated by using emission factors given in Table 15.

Table 15 Emission Factors to be Used in Dust Emission Mass Flow Calculations

Resources	Uncontrolled	Controlled	Unit
Transportation (total round trip distance)	0,7	0,35	kg/km-vehicle

The movement distance in the project area is 150 m. In the dust emission calculation from vehicle movements in the project area, the emission factor is taken as 0.7 kg/kg-vehicle (uncontrolled) and 0.35 kg-vehicle (controlled) and calculated as follows;

Uncontrolled:
Emission Flow Rate:
0.70 kg/km-vehicle x 0.15 km x 3 vehicles/hour x 2 (round trip) = 0.63 kg/hour

Controlled:
Emission Flow Rate:
0.35 kg/trip.km x 0.15 km x 3 vehicles/hour x 2 (round trip) = 0.32 kg/hour

Within the scope of the project, the mass flow rate of dust emission expected to be generated by the movement of vehicles in the project area during the construction phase of the Solar Power Plant is calculated as 0.32 kg/hour in case of controlled operation and 0.63 kg/hour in case of uncontrolled operation.

According to Annex 2-1 of the Regulation on Control of Industrial Air Pollution;

a. The hourly mass flow rates of the emissions given to the atmosphere from the facilities are determined by measuring from the chimneys for existing facilities and by using emission factors for non-stack sources and new facilities to be established.
b. If the hourly mass flow rate (kg/hour) values exceed the values given in Table 2.1, the Air Pollution Contribution Value (APV) of the emissions in the plant impact area is calculated hourly if possible, otherwise daily, monthly and annually.

Since the dust emission value calculated using the emission factors for the Project does not exceed the limit value of 1 kg/hour for dust emissions from places other than stacks given in Annex 2 - Table 2.1

of the subject regulation, there is no need to calculate the air pollution contribution value. Therefore, the air quality effect was determined to be low.

In this context, WBG General EHS Guidelines and Turkish Legal limit values are given below. Turkish legislation is mostly in line with international legislation. As can be seen in the tables below, the limit values of both institutions are mostly compatible with each other. Only the national regulation does not specify a limit value for PM2.5. WBG General EHS Guidelines values will be applied if necessary. In cases where Turkish requirements differ from the levels and measures presented in the EHS Guidelines, the more stringent one will be applied as the project specifications.

Table 16 WBG General EHS Guidelines Ambient Air Quality Limit Values

WHO Ambient Air Quality Guidelines					
	Averaging Period	**Interim Target-1 (µg/m³)**	**Interim Target-2 (µg/m³)**	**Interim Target-3 (µg/m³)**	**Guideline (µg/m³)**
Sulfur dioxide (SO_2)	24 hours	125	50	-	20
	10 minutes	-	-	-	500
Nitrogen dioxide (NO_2)	1 year	-	-	-	40
	1 hours	-	-	-	200
Particulate Matter PM_{10}	1 year	70	50	30	20
	24 hours	150	100	75	50
Particulate Matter $PM_{2.5}$	1 year	35	25	15	10
	24 hours	75	50	37,5	25
Ozone	8-hour daily maximum	160	-	-	100

Source: IFC General EHS Guidelines (April 30, 2007): Environmental Air Emissions and Ambient Air Quality

Notes: In the relevant source, it is stated that there is no limit value in the places indicated by the "-" sign.

Table 17 Turkish Legislation Air Emissions Limit Values

1. Parameter	2. Time	3. Unit	4. Limit value
SO_2	Hourly (not exceeded more than 24 times in one year)	µg/m³	350
	24 HOURS		125
	UVS		60
	**Annual and winter period (October 1-March 31)		20
NO_2	Hourly (not exceeded more than 18 times in one year)	µg/m³	200*
	annual		40
Air Suspended Particulate Matter (PM_{10})	24 HOURS (not exceeded more than 35 times in one year)	µg/m³	50
	Annual		40

Source: https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=13184&MevzuatTur=7&MevzuatTertip=5

Accordingly, the pollutant values to be caused by construction machinery are calculated and given below.

Table 18 Construction Machinery Pollutant Values

Pollutant	Diesel (kg/ton)	
NOx	0.081 kg/m3 x 68 lt/h x 1m3/1000lt	0.0055 kg/hour
CO	0.017 kg/m3 x 68 lt/h x 1m3/1000lt	0.0012 kg/hour
SOx	0.005 kg/m3 x 68 lt/h x 1m3/1000lt	0.0003 kg/hour
PM	0.006 kg/m3 x 68 lt/h x 1m3/1000lt	0.0004 kg/hour
TOC	0.006 kg/m3 x 68 lt/h x 1m3/1000lt	0.0004 kg/hour

Table 19 Construction Machinery Pollutant Values-Boundary Value comparison

	CO (kg/hour)	HC (kg/hour)	NOx (kg/hour)	PM (kg/hour)	SOx (kg/hour)
Total Pollutant Value	0,0012	0,0004	0,0055	0,0004	0,0003
Legal Limit Value	50	3	4	1	6

Since the hourly mass flow rate (kg/hour) values calculated does not exceed the regulatory limit values as shown in Table 19, there is no need to calculate the air pollution contribution value. Therefore, the air quality impact due to vehicle gas emissions was determined to be low.

There will be no excavation process in the construction of the project. For dust emissions from vehicles within the scope of the project, the provisions of the "Industrial Air Pollution Control Regulation" published in the Official Gazette dated 20.12.2014 and numbered 29211 will be complied.

6.2.2.2 Operation Stage

No emissions are expected during the operation phase. No air pollution impact is expected due to the nature of the process.

6.2.3 Noise Pollution and Vibration

6.2.3.1 Construction Stage

Noise generation is expected during the construction of the Project, especially during the driving of the panel legs into the ground. Noise generation is also expected from vehicles during the transportation of panels and during material unloading. The calculation of the noise that may occur during the construction phase is given below.

Noise from Vehicles

Within the scope of the activity, 1 mobile pile driving machine, 1 truck and 1 mobile crane will be used in the area where solar panels will be installed. Noise will be generated from the machines to be used in this scope.

The closest settlement to the project area is the vineyard house located 62 m northeast of the project area (see Figure 44). The noise level value of the noise level expected to occur at the source, which will reach the vineyard house 62 m away, is calculated as 62.23 dBA. Noise calculations are provided below.

During the construction of the project, only daytime work will be carried out. For this reason, the determined noise level also meets the legal limits in the vineyard house, which is the closest settlement. The project information has been disseminated to the communities and settlements closest to the Project area.

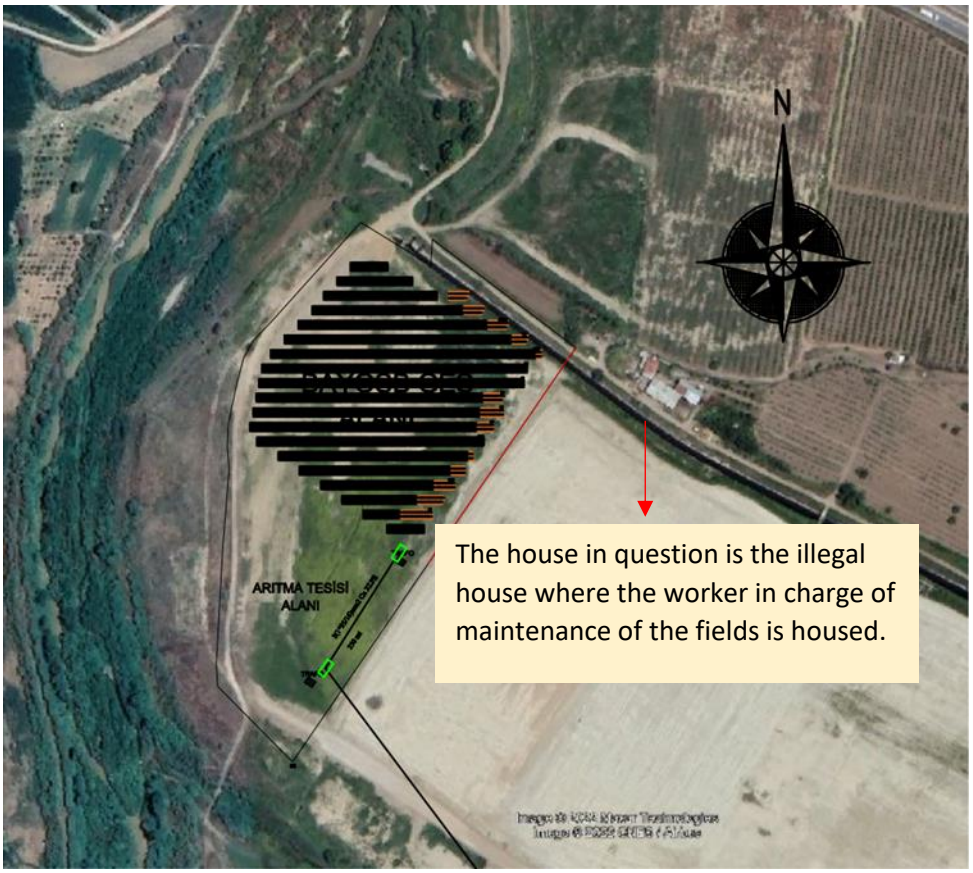


Figure 44: Project Area Nearest Settlement

Motor Powers in kW were calculated according to the motor powers in HP to be used within the scope of the activity. Engine powers are converted from HP to kW by unit conversion (1 HP = 0.7457 kW) as shown in Table 20.(Source: https://convertlive.com/tr/)

Table 20 Machinery and Equipment Specifications to be used during the Construction Phase

Unit	Engine Power (HP)	Engine Power (kW)
Truck (1 unit)	165 HP	**123 kW**
Mobile Pile Driving Machine (1 piece)	47 HP	**35 kW**
Mobile Crane (1 unit)	165 HP	**123 kW**

Permissible sound power levels and noise marking within the scope of Article 5 of the Ministry of Industry and Trade Regulation No. 26392 dated 30.12.2006 on Noise Emission in the Environment Created by Outdoor Equipment

P=104 kW if P<55 HP
If P>55 HP, P= 85 + 11 log P is accepted.

Accordingly, the sound power levels of the machinery and equipment to be used are calculated and presented below.

Table 21 Number of Machinery and Equipment to be used and Sound Power Levels

Machine Equipment Name	Pcs.	Sound Power Level (dB)
Truck	1	105
Mobile Pile Driving Machine	1	104
Mobile Crane	1	105

Noise propagation calculation was made by considering the atmospheric absorption values (average humidity was taken as 60%) and using the formulas given below. The relative humidity used in the formula is the average annual humidity.

Table 22 Noise Sources and Sound Levels According to 4 Octave Band

Noise Sources	Sound Level Power (dB)				
	Total	500 Hz	1000 Hz	2000 Hz	4000 Hz
Truck	105	99	99	99	99
Mobile Pile Driving Machine	104	98	98	98	98
Mobile Crane	105	99	99	99	99

The following table is created using the formula Lp=Lw+10Log(Q/4π.r2).
Lp= Sound pressure level of the source (dB)
Lw= Sound power level of the source (dB)
Q= Orientation coefficient (taken as 1)
r= Distance from the source (m)

Table 23 Sound Levels of Noise Sources according to Distances

Noise Sources	Sound Level Power (dB)				
	Distance	500 Hz	1000 Hz	2000 Hz	4000 Hz
Truck	10	68,01	68,01	68,01	68,01
	20	61,99	61,99	61,99	61,99
	30	58,47	58,47	58,47	58,47
	50	54,03	54,03	54,03	54,03
	62	52,16	52,16	52,16	52,16
	100	48,01	48,01	48,01	48,01
	250	40,05	40,05	40,05	40,05
Mobile Pile Driving Machine	10	67,01	67,01	67,01	67,01
	20	60,99	60,99	60,99	60,99
	30	57,47	57,47	57,47	57,47
	50	53,03	53,03	53,03	53,03
	62	51,16	51,16	51,16	51,16
	100	47,01	47,01	47,01	47,01
	250	39,05	39,05	39,05	39,05
Mobile Crane	10	68,01	68,01	68,01	68,01
	20	61,99	61,99	61,99	61,99

	30	58,47	58,47	58,47	58,47
	50	54,03	54,03	54,03	54,03
	62	52,16	52,16	52,16	52,16
	100	48,01	48,01	48,01	48,01
	250	40,05	40,05	40,05	40,05

In the frequency range 500 Hz to 4000 Hz, the correction factors are given below.

Table 24 Correction Factors

Center Frequency (Hz)	Correction Factor
500	-3,2
1000	0
2000	1,2
4000	1

After applying the correction factor, the sound levels generated by distance and hertz are given below.

Table 25 Sound Levels by Distance and Hertz after Correction Factor

Noise Sources	Distance (m)	Sound Level (dBA)			
		500 Hz	1000 Hz	2000 Hz	4000 Hz
Truck	10	10	64,81	68,01	69,21
	20	20	58,79	61,99	63,19
	30	30	55,27	58,47	59,67
	50	50	50,83	54,03	55,23
	62	62	48,96	52,16	53,36
	100	100	44,81	48,01	49,21
	250	250	36,85	40,05	41,25
Mobile Pile Driving Machine	10	63,81	67,01	68,21	68,01
	20	57,79	60,99	62,19	61,99
	30	54,27	57,47	58,67	58,47
	50	49,83	53,03	54,23	54,03
	62	47,96	51,16	52,36	52,16
	100	43,81	47,01	48,21	48,01
	250	35,85	39,05	40,25	40,05
Mobile Crane	10	64,81	68,01	69,21	69,01
	20	58,79	61,99	63,19	62,99
	30	55,27	58,47	59,67	59,47
	50	50,83	54,03	55,23	55,03
	62	48,96	52,16	53,36	53,16
	100	44,81	48,01	49,21	49,01
	250	36,85	40,05	41,25	41,05

The atmospheric absorption values for each frequency were calculated according to the formula Aatm=7.4.10-8 (f2.r / ϕ) and the table below was created.

f= Transmitted sound frequency
r= Distance from the source (m)
ϕ= Relative humidity of air (58.9%)
Aatm= Decrease in sound pressure level with atmospheric absorption (dBA)

Table 26 Atmospheric Absorption Values by Frequency and Distances

Frequency (Hz)	Distance (m)	Atmospheric Ingestion
500	10	0,00
	20	0,01
	30	0,01
	50	0,02
	62	0,02
	100	0,03
	250	0,08
1000	10	0,01
	20	0,02
	30	0,04
	50	0,06
	62	0,08
	100	0,12
	250	0,31
2000	10	0,05
	20	0,10
	30	0,15
	50	0,25
	62	0,31
	100	0,49
	250	1,23
4000	10	0,20
	20	0,39
	30	0,59
	50	0,99
	62	1,22
	100	1,97
	250	4,93

After deducting the atmospheric absorption values, the net sound level of each noise source in the 4 octave band was calculated with the formula L=L-Aatm and LT=Total Sound Level LT=10Log∑10Li/10 and the following table was created.

Table 27 Net Sound Levels by Distance

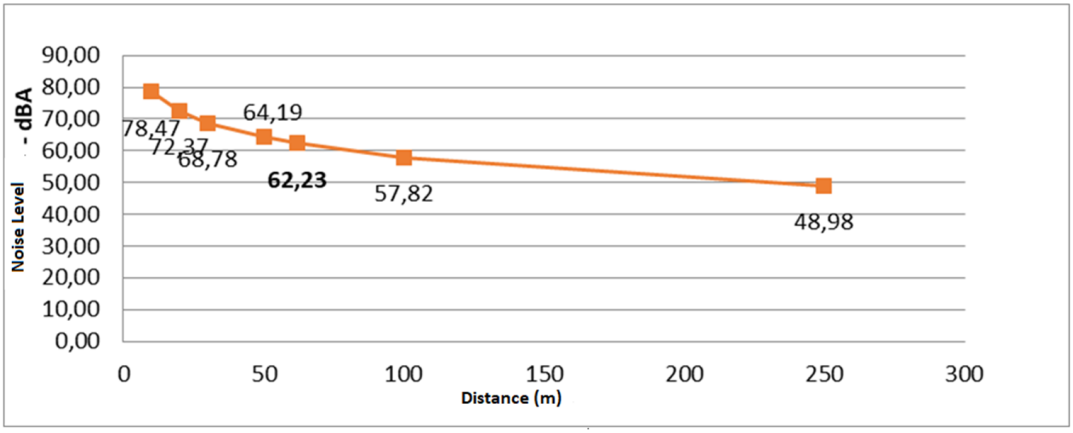
Noise Sources	Sound Level Power (dB)					Total Sound Level (dBA)
	Distance	500 Hz	1000 Hz	2000 Hz	4000 Hz	
Truck	10	64,81	68,00	69,16	68,81	74,01
	20	58,78	61,96	63,09	62,59	67,91
	30	55,26	58,43	59,52	58,88	64,31
	50	50,82	53,97	54,98	54,04	59,73
	62	48,94	52,09	53,06	51,94	57,77
	100	44,78	47,89	48,72	47,04	53,35
	250	36,77	39,74	40,02	36,12	44,52
Mobile Pile Driving Machine	10	63,81	67,00	68,16	67,81	73,01
	20	57,78	60,96	62,09	61,59	66,91
	30	54,26	57,43	58,52	57,88	63,31
	50	49,82	52,97	53,98	53,04	58,73

	62	47,94	51,09	52,06	50,94	56,77
	100	43,78	46,89	47,72	46,04	52,35
	250	35,77	38,74	39,02	35,12	43,52
Mobile Crane	10	64,81	68,00	69,16	68,81	74,01
	20	58,78	61,96	63,09	62,59	67,91
	30	55,26	58,43	59,52	58,88	64,31
	50	50,82	53,97	54,98	54,04	59,73
	62	48,94	52,09	53,06	51,94	57,77
	100	44,78	47,89	48,72	47,04	53,35
	250	36,77	39,74	40,02	36,12	44,52

The total sound level was calculated using the formula Leq=10Log∑10LT(i)/10, assuming that all equipment is operating at the same time. Accordingly, the sound level according to distances is as follows:

Table 28 Sound Level over Distances

Distance (m)	LDay (dBA)
10	78,47
20	72,37
30	68,78
50	64,19
62	62,23
100	57,82
250	48,98



Graphic 9: Noise Level by Distances

The closest settlement to the project area is the vineyard house located 62 m northeast of the project area. The noise level calculated at a distance of 62 m is 62.23 dBA.

Within the scope of the activity, the Limit Values of the "Environmental Noise Control Regulation" dated 30.11.2022 and numbered 32029 will not be exceeded.

Since only daytime work will be carried out within the scope of the project, 65 dBA, which is the limit value according to the Environmental Noise Control Regulation Annex-2 Table-1, dated 30.11.2022 and numbered 32029 will not be exceeded. (Table 29)

General EHS Guidelines: Environmental Noise Management Table 1.7.1 Noise Level Guidelines have been provided in Table 30 and considering these limit values, it can be stated that the estimated noise level with 62.23 dBA is slight higher than 55 dBA, so it is considered that the estimated noise level will be decreased to be lower than 55 dBA with implementation of the mitigation measures provided in Section 7 of this ESMP.

Table 29 Environmental Noise Limit Values for Industrial Facilities

Noise Source	Measured Parameter	Environmental Noise Level		
		Day	Evening	Night
Industrial facilities, transportation resources	$LA_{eq,5min.}$	65 dB(A)	60 dB(A)	55 dB(A)
Businesses that broadcast music	$LA_{eq\ 63\text{-}250\ Hz}$	60 dB(A)	55 dB(A)	50 dB(A)
Workplaces	$LA_{eq,5min.}$	Background + 5 dB(A)		Arka Plan + 3 db(A)
In case of multiple workplaces	$LA_{eq,5min.}$	Background + 7 dB(A		Arka Plan + 5 db(A)
All resources	LCmax	100 dB(C)		

Table 30 BG Noise Level Guidelines

Table 1.7.1- Noise Level Guidelines		
	One Hour LAeq (dBA)	
Receptor	Daytime 07.00-22.00	Nighttime 22.00-07.00
Residential; institutional; educational	55	45
Industrial; commercial	70	70

Vibration is expected to occur during the driving of the panels into the ground within the scope of the Project.

FTA (Federal Transit Administration) Transit Noise and Vibration Impact Assessment Manual September 2018 was used as a reference for vibration calculation. The formulations mentioned in this source are as follows.

$$PPVequip = PPVref \times (25/D)^{1.5}$$

PPVequip = Maximum particle velocity of the equipment adjusted by distance, in/sec

PPVref = Source reference vibration level at 25 ft, in/sec

D = distance from equipment to receiver ft

Vibration calculations are conducted by using the formula provided above and the vibration source levels of construction equipment provided in Table 31. The results of calculations are given in Table 32, Table 33 and Table 34.

Table 31 Vibration Source Levels for Construction Equipment

Equipment		pPV in/sec at 25 ft	approx. Lv* at 25 ft
Pile driving (Impact)	Higher Tier	1.518	112
	Normal	0.644	104
Pile driving (sonic)	Higher Tier	0.734	105
	Normal	0,17	93
		0.202	94
Aqueous mil	In soil	0.008	66
	On the rock	0.017	75
Vibrator Cylinder		0,21	94
Anchor		0.089	87
Big Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Crusher		0.035	79
Small bulldozer		0.003	58

*RMS rate in decibels, VdB re I micro in/sec

Table 32 Vibration Calculation (inc/sec)

PPV_{equip}	1m	10m	20m	50m	100m
	31,943	1,010	0,357	0,090	0,032
inc/sec	13,551	0,429	0,152	0,038	0,014
	15,445	0,488	0,173	0,044	0,015
	3,577	0,113	0,040	0,010	0,004

Table 33 Vibration Calculation (mm/sec)

PPV_{equip}	1m	10m	20m	50m	100m
	811,343	25,657	9,071	2,295	0,811
mm/sec	344,206	10,885	3,848	0,974	0,344
	392,310	12,406	4,386	1,110	0,392
	90,862	2,873	1,016	0,257	0,091

Table 34 Vibration Result Values

Impact driver max.	1,518 mm/sn
Impact driver ave.	0,644 mm/sn
Normal driver max.	0,734 mm/sn
Normal driver ave.	0,17 mm/sn

Table 35 Limit value (at the nearest very sensitive use area) (peak value mm/sec)

	Continuous	Discrete
In residential areas	5	10
In commercial areas	15	30

Source: Environmental Noise Control Regulation dated 30.11.2022 and numbered 32029)

Considering the vibration results provided in Table 34 and legislative limit values provided in Table 35, it is assessed that the vibration impact will be low.

6.2.3.2 Operation Stage

There are no activities that may cause noise and vibration during the operation of the Solar Power Plant. Therefore, no noise and vibration impacts are expected during the operation phase of the Project.

6.2.4 Water Resources

6.2.4.1 Construction Stage

There is Nif Stream as a surface water source near the Project area. However, the SPP project will be constructed in the region of the project area far from the Nif Stream. Likewise, there is a DSİ Irrigation channel for irrigation of the agricultural areas in the region. There will be no impact on existing water resources due to the nature of the project.

During the construction phase of the Project, water use by personnel is expected, but water use by process is not expected. Since the panel legs will be driven into the ground, concrete will not be poured, vehicle maintenance, repair and cleaning will not be carried out in the project area, there will be no process-related water use.

A team of approximately 10 people is expected to work on the construction of the project. The water requirement calculation for the people who will work in the project is given below.

Drinking and Potable Water Needs:
A total of 10 personnel is planned to work in the facility. Daily water consumption per capita is taken as 208 lt/person.day (Source: TURK STAT 2018). Accordingly, the calculation of the amount of drinking and potable water required is given below.

Current Daily Water Requirement;

208 lt / person.day x 10 people x day/24h x 8h = 693 L/day = 0,69 m3/day,

Project construction workers will meet their daily needs at the OIZ Directorate facilities. Bağyurdu OIZ Directorate meets its water needs from groundwater wells with legal permission. Therefore, no drinking and potable water facility will be provided in the project area during the construction phase, even temporarily. Employees will meet all their daily needs, including food needs, at the OIZ facilities. As the construction period is planned to take approximately three months, it is assumed that the process can be carried out in this way.

Domestic wastewater generated within the body of Bağyurdu OIZ is sent to Kemalpaşa OIZ central wastewater treatment plant in accordance with the protocol signed. Kemalpaşa OIZ has a wastewater treatment plant with a capacity of 20,000 m3. All legal permits for the facility in question have been completed.

6.2.4.2 Operation Stage

Since there will be no permanent personnel during the operation phase of the Project, water use by personnel is not expected. However, during the operation phase, solar panels need to be washed once or twice a year. Clean water will be used here. There will be no use of chemicals/detergents together

with cleaning water. Therefore, there will be process-induced water use during the operation phase. The amount of water to be used at this stage is calculated as approximately 4 m3 for each wash.

Figure 45: Panel cleaning equipment

The water to be used in this context will be supplied from the OIZ network. In this context, no additional groundwater resources or surface water will be used. Since this panel washing process is in the form of water spraying, the amount of water usage is minimal. Since the panel washing process will be in the form of spraying and brushing, no wastewater will be generated.

6.2.5 Wastes

6.2.5.1 Construction Stage

Within the scope of the Project, during the construction of the SPP and the Electric Vehicle Fast Charging Station, waste generation from materials, installation and personnel is expected. Possible wastes are given in Table 36.

The policy for the wastes to be generated during the construction and operation phase of the project is as follows. First of all, necessary measures will be taken to prevent waste. For the wastes to be generated, a temporary waste storage site will be created according to the waste types. Soil impermeability of this area will be provided. The resulting wastes will be collected separately according to their types and sent to licensed recycling facilities. Records of these submissions will be kept.

A zero waste system has been established and implemented within the body of Bağyurdu OIZ. In this context, a waste collection center was established within the OIZ. Participants can bring their paper, plastic, glass, metal, battery, medical and electronic wastes to the waste collection center. Wastes brought here are sent to licensed facilities.

Domestic wastes generated in Bağyurdu OIZ are placed in containers placed by Kemalpaşa Municipality and collected by Kemalpaşa Municipality and sent to the licensed sanitary landfill having sufficient capacity.

Considering the construction process of the project, the materials to be used and the duration of the project, the type and amount of waste will be low. Therefore, the significance of the waste impact will be low.

Table 36 Construction Phase Waste Table

POSSIBLE WASTES DURING CONSTRUCTION				
WASTE TYPE	**WASTE CODE**			
Domestic Wastewater	-			
Household Waste	20 03 01			
Plastic packaging	15 01 02			
Glass Packaging	15 01 07			
Metal Packaging	15 01 04			
Paper and cardboard packaging	15 01 01			
Wooden packaging	15 01 03			
Mixed Metals	17 04 07			
Packages containing residues of dangerous substances or contaminated with dangerous substances	15 01 10 *			
Metallic packaging containing hazardous porous solid structure (e.g. asbestos), including empty pressure containers	15 01 11*			
Absorbents contaminated with hazardous substances, filter materials, (oil filters if not otherwise specified) cleaning cloths protective clothing	15 02 02*			
Absorbents, filter media, cleaning cloths, protective clothing other than 15 02 02	15 02 03			
Other engine, transmission and lubricating oils	13 02 08*			
Oil filters	16 01 07*			
Discarded electrical and electronic equipment containing hazardous parts other than 20 01 21 and 20 01 23 *	20 01 35*			
Electronic waste	20 01 36			
Source Waste	12 01 03			
Cables containing oil, tar and hazardous substances	17 04 10*			
cables other than 17 04 10	17 04 11			
Other batteries and accumulators	16 06 05			
End-of-life tire	16 01 03			
soil and rocks other than 17 05 03	17 05 04			
Soil and rocks containing hazardous substances	17 05 03*			
Wastes subject to special treatment for collection and disposal to prevent infection	18 01 03*			
Vegetable waste oil	20 01 26*			

Unexpected
Likely
expected
*Damaged solar panels will be evaluated in this category.

6.2.5.2 Operation Stage

Waste generation from maintenance and repair activities is expected during the operation phase of the SPP and Fast Charging station. Possible wastes are given below. Waste generation due to maintenance and repair is expected during operation. For these wastes, they will be stored separately within the waste management system of Bağyurdu OIZ Directorate and sent to licensed facilities. The type and amount of waste will be low due to maintenance and repair activities. Therefore, the significance of the impact will be low.

Table 37 Operation Phase Waste Table

POSSIBLE WASTES DURING OPERATION				
WASTE TYPE	WASTE CODE			
Domestic Wastewater	-			
Household Waste	20 03 01			
Plastic packaging	15 01 02			
Glass Packaging	15 01 07			
Metal Packaging	15 01 04			
Paper and cardboard packaging	15 01 01			
Wooden packaging	15 01 03			
Mixed Metals	17 04 07			
Packages containing residues of dangerous substances or contaminated with dangerous substances	15 01 10 *			
Metallic packaging containing hazardous porous solid structure (e.g. asbestos), including empty pressure containers	15 01 11*			
Absorbents contaminated with hazardous substances, filter materials, (oil filters if not otherwise specified) cleaning cloths protective clothing	15 02 02*			
Absorbents, filter media, cleaning cloths, protective clothing other than 15 02 02	15 02 03			
Other engine, transmission and lubricating oils	13 02 08*			
Oil filters	16 01 07*			
Discarded electrical and electronic equipment containing hazardous parts other than 20 01 21 and 20 01 23 *	20 01 35*			
Electronic waste	20 01 36			
Source Waste	12 01 03			
Cables containing oil, tar and hazardous substances	17 04 10*			
cables other than 17 04 10	17 04 11			
Other batteries and accumulators	16 06 05			
End-of-life tire	16 01 03			
soil and rocks other than 17 05 03	17 05 04			
Soil and rocks containing hazardous substances	17 05 03*			
Wastes subject to special treatment for collection and disposal to prevent infection	18 01 03*			
Vegetable waste oil	20 01 26*			

*Damaged solar panels will be evaluated in this category.

6.2.6 Protected Areas

The project area has been declared as an industrial area by the Ministry of Industry and Technology and has been registered as Industrial Area in the Plans. Therefore, the project area does not fall within any protected area boundaries.

There are also no internationally recognized areas of high biodiversity value (such as World Heritage Natural Sites, Biosphere Reserves, Ramsar Wetlands of International Importance, Key Biodiversity Areas, Important Bird Areas, and Alliance for Zero Extinction Sites) within the Project Area and its vicinity.

The Project Area is 11.1 km from Spil Mountain National Park, 26.2 km from Marmara Lake Wetland and 14.5 km from Ovacık Wildlife Development Area (see Figure 46). Due to the nature of the Project and distances to these areas, the Project is not expected to have a negative impact on these areas.

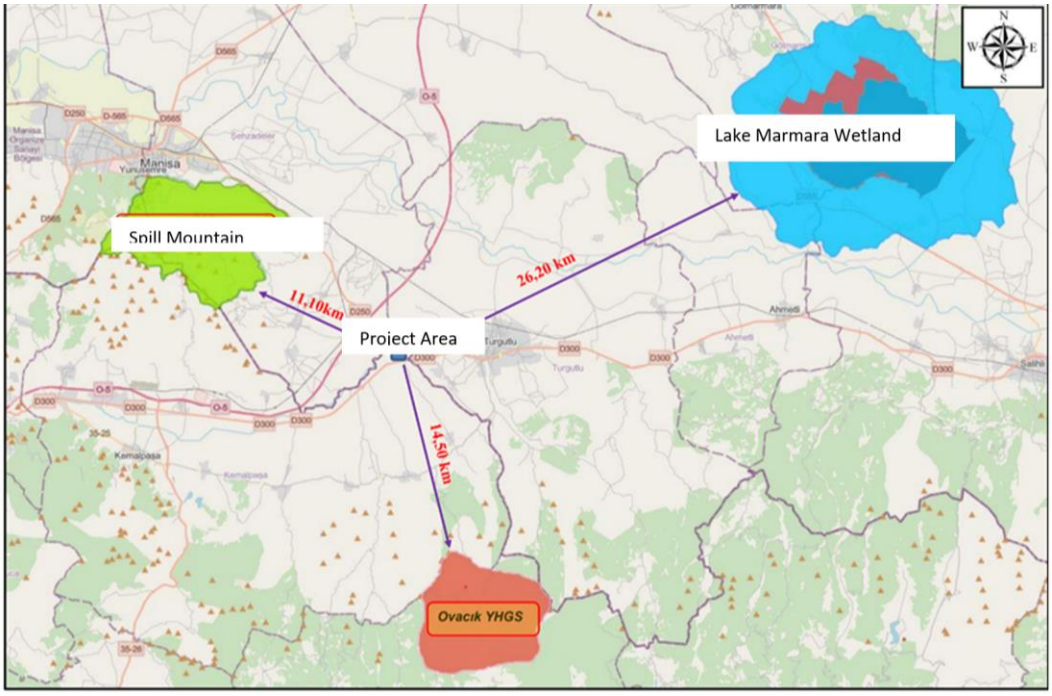


Figure 46: Project Area Sensitive Area Distances

6.2.7 Visual Impact and Landscape

6.2.7.1 Construction Stage

No significant visual pollution is expected during the construction phase of the Project. Since the height of the solar panels is not high (the highest point of the solar panels will be 3575 mm), no negative visual impact is expected during the construction phase, both on the land and from the machinery and equipment.

As the existing landscape will not be disturbed during the construction phase, no significant negative impact on the landscape is expected.

6.2.7.2 Operation Stage

Within the scope of the project, solar panels with a maximum height of 3575 mm will be installed. Since there is no settlement around the project area, it is not possible to block the view or to block the view of the existing lands.

No changes will be made to the landscape structure during the construction phase of the project. Therefore, the landscaping in and around the project area will not change. There is a level difference with the neighboring parcel in the OIZ. The project area is located at a lower elevation. There will be no negative impact on this parcel either.

6.3 Effects on the Biological Environment

In this section, biological impacts because of project activities in the project area have been assessed. All impacts of the construction phase and project phase are discussed. It was informed that the project area is not located in sensitive and protected areas.

6.3.1 Construction Stage

The project area is weak in terms of flora and fauna, as evidenced by the fact that the project area is located in the industrial area, not in protected and sensitive areas, and the existing field surveys.

There is no vegetation or trees on the land and it has the appearance of clay and sandy soil. Therefore, since the construction technique is to nail the solar panel legs, there will be no activities that will have a significant biological impact on the land. Since there is no endemic, critical or sensitive flora and fauna in the current situation, it is thought that there will be no significant impact (see Figure 47).

The project will not have any impact on the biological environment of the surrounding lands with the construction work as the construction works and related possible impacts will be mainly limited to the project area.

Figure 47: Project Area View (Biological Impact)

6.3.2 Operation Stage

No impact of solar panels on flora is expected during the operation phase of the Project. In the literature research on this subject, no proven effect of solar panels on flora was found.

However, migratory birds have been observed to be affected due to the reflection and mirror function of solar panels that were produced with older technologies. However, in the new technology, this effect has been eliminated following the studies carried out to increase the absorption feature of the solar panels.

In this project, state-of-the-art, non-reflective glass will be used to both prevent biological effects and increase absorption efficiency. Moreover, the project area is not located on bird migration routes (see Figure 48).

MAP SHOWING BIRD MIGRATION ROUTES IN AND AROUND THE PROJECT AREA

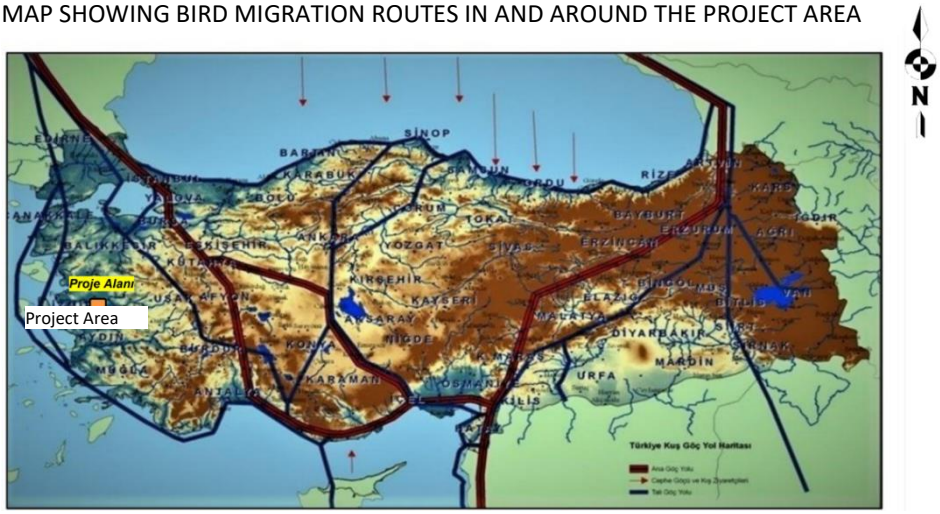


Figure 48: Map of Migratory Bird Routes through Turkey (Kiziroğlu et al., 2011)

As a result, no significant negative impact on the biological environment is expected during the operation phase.

6.4 Impact on Social Environment

Kemalpaşa district, where the project will be located, is 29 km east of Izmir and 8 km south of the Izmir-Ankara Highway. Turgutlu to the east, Manisa to the north, Bornova and Izmir center to the west, Torbalı and Bayındır is to the south. Its area is 658 km2 and its altitude is 225 meters.

Kemalpaşa District is located on a highly fertile plain between the Nif Mountains, the highest point of which is 1510 meters in the southwest, and the Manisa Mountains in the north.

The most important river of the district is Nif Stream. This stream enters the borders of the district from the west of Ulucak and flows eastward through the Kemalpaşa Plain and flows into the Gediz River in Manisa.

Neighborhoods divided in terms of settlement in the Region are concentrated on İzmir - Ankara Highway, Kemalpaşa - Turgutlu Road and Kemalpaşa - Torbalı Road.

Kemalpaşa district is subject to intensive migration due to its structure suitable for development, its location in the mass housing area and industrial developments. In this respect, problems such as infrastructure, economic inadequacies, health and literacy negatively affect social life.

The livelihoods of the district are agriculture, animal husbandry and industry. 60% of the district's population is engaged in agriculture and animal husbandry, while 40% works in many industrial facilities and breeding farms (sheep and cattle farms) established within the borders of the district.

Since the district is close to Izmir, the fact that the people meet their social needs from Izmir is to the detriment of Kemalpaşa in a way.

There are two Organized Industrial Zones within the borders of the district, namely Kemalpaşa Organized Industrial Zone and Bağyurdu Organized Industrial Zone, and there are more than 500 industrial enterprises operating inside and outside the organized industrial zones. Total employment is over 25,000, with approximately 20% of the employment coming from Kemalpaşa and the remaining 80% from Izmir.

There will be no positive impact on the socio-economic environment of the region due to the fact that the project area is within the OIZ, there are agricultural areas on the border of the project area, and there are no employment opportunities during the operation phase of the project. Likewise, it is not expected to have a negative impact. Approximately 10 people will work during the construction phase of the project. The works to be done during the construction phase of the project require a certain experience and mastery. Therefore, there will be no employment of workers from the region.

These workers are blue-collar workers who will work such as hammering the panel legs, installing the panel, pulling the cable, preparing the transformer site. At the end of the construction, there will be a need for white collar workers for energy connections, even if it is a short time.

In addition, there will be no campsites for those working in the project. Work will be done during daylight hours only. Training on code of conduct will be delivered to the workers

In addition, it is expected to encourage industrialists in the region to use renewable energy. Likewise, the creation of an Electric Vehicle Fast Charging Station is expected to encourage people in the region to use electric vehicles.

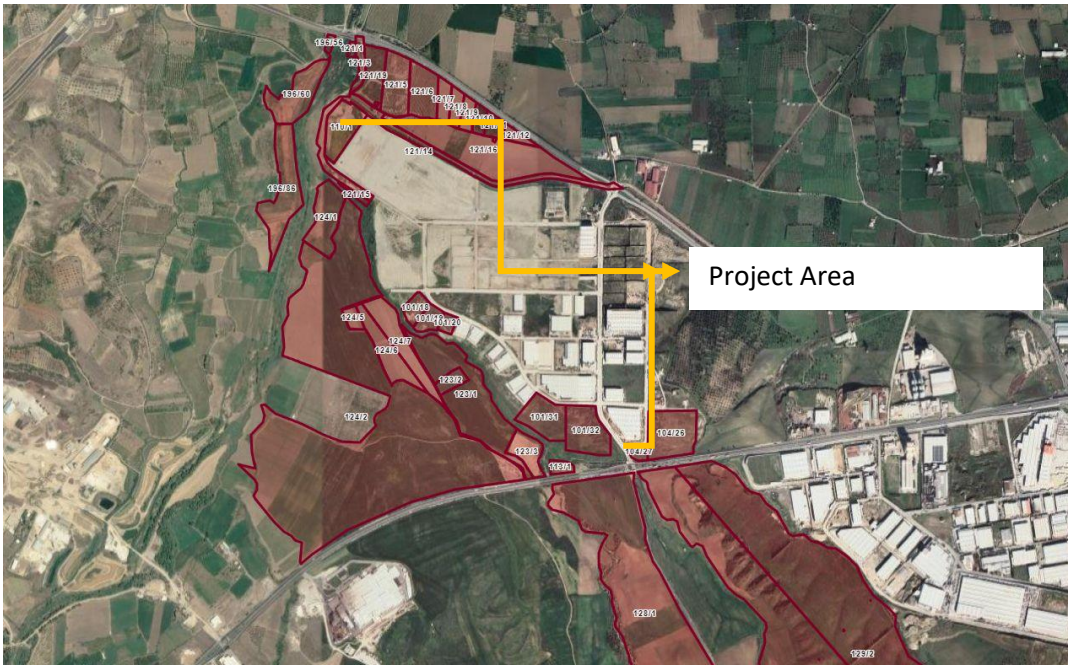


Figure 49: Property Status around the Project Area

There are no settlements close to the SPP Area that will be affected by the project. The distances of the project area to the residential areas are given below.(see Figure 50) The settlements close to the project area are Çepnidere village at a distance of 5300 m, Sancaklıbozköy village at a distance of 6100 m, Turgutlu district at a distance of 6250 m and Sancaklıığdecik village at a distance of 6600 m.

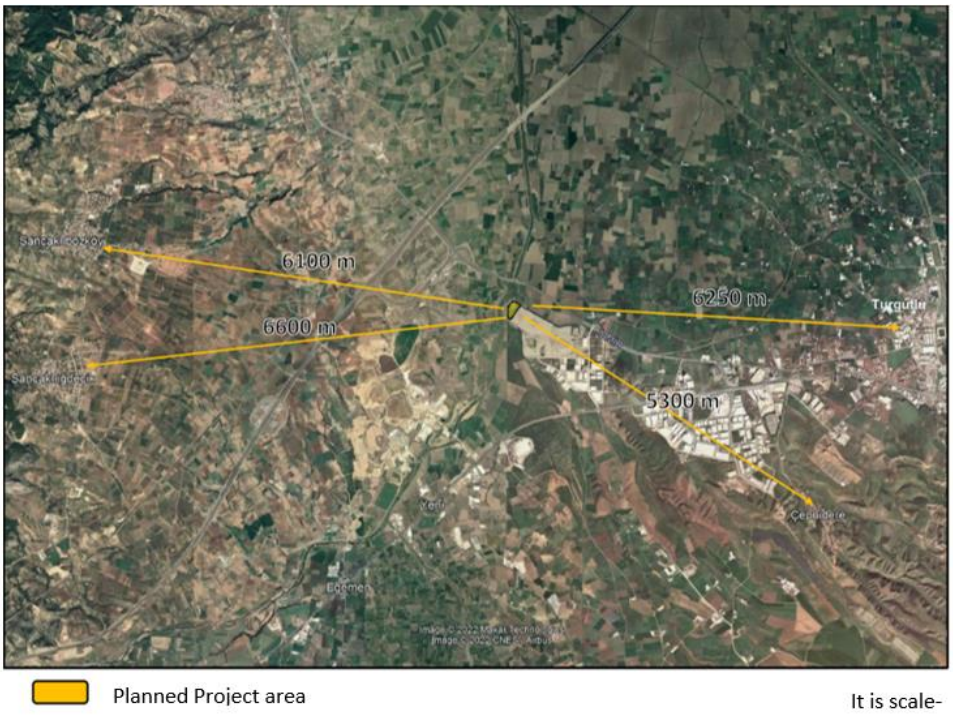


Figure 50: SPP Settlement Distances

The nearest settlements to the Electric Vehicle Fast Charging Station area are Çepnidere village at a distance of 3350 m, Turgutlu district at a distance of 4550 m, Sancaklıbozköy village at a distance of 6100 m and Sancaklıığdecik village at a distance of 6600 m. The distances related to the charging station are given in Figure 51.

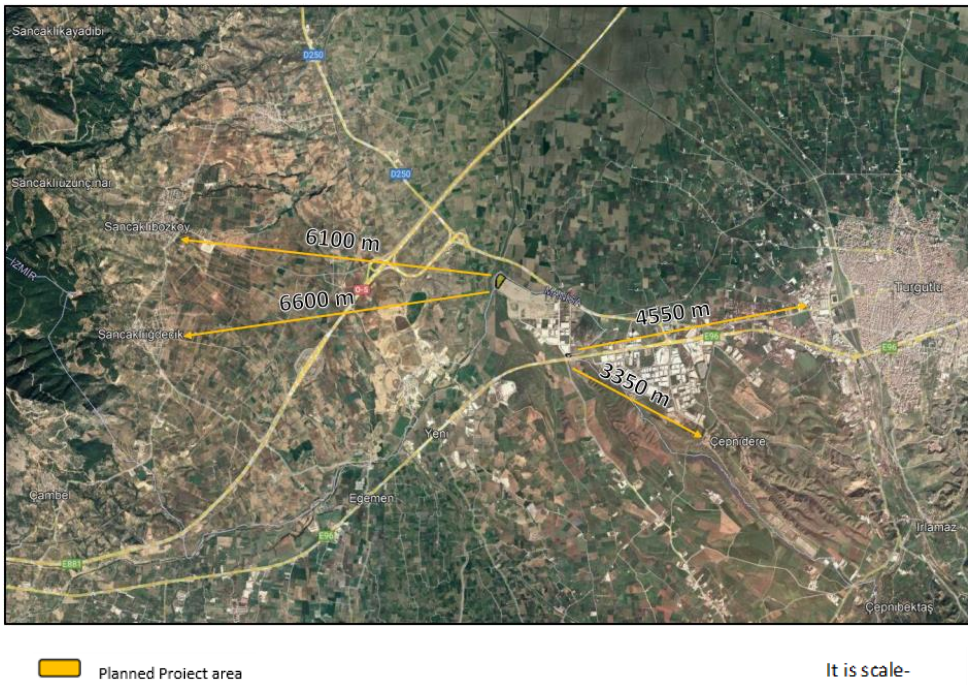


Figure 51: Fast Charging Station Settlement Distances

It is considered that there will be no negative impact on the socio-economic environment due to the fact that the construction phase of the project will be completed in a short period of approximately 1.5 months, being far from settlements and the process characteristics.

6.4.1 Traffic Impact

6.4.1.1 Construction Phase

During the construction phase of the project; there will be traffic impact due to the transportation of construction machinery, solar panels to be used and employees. However, this impact will be limited to 1 graveling machine to be used in the project, 1 work machine to be used in the site arrangement and the vehicles to be used to bring the materials to the site. This impact is expected to be negligible considering the use of highways where the increase in traffic density due to the Project will be insignificant.

The transportation route to be used for these operations is shown in Figure 52.

As shown in the transportation route, the project area is surrounded by the Manisa and Izmir highways. Therefore, whether the transportation operations are carried out by İzmir or Manisa, the highway will be used and will not pass through any settlement.

Vehicles arriving at the Bağyurdu OIZ area using these highways will reach the project area by using the road within the OIZ. The distance within the OIZ is 2 km.

SATELLITE IMAGE SHOWING THE ROUTE ROADS FOR THE PROJECT

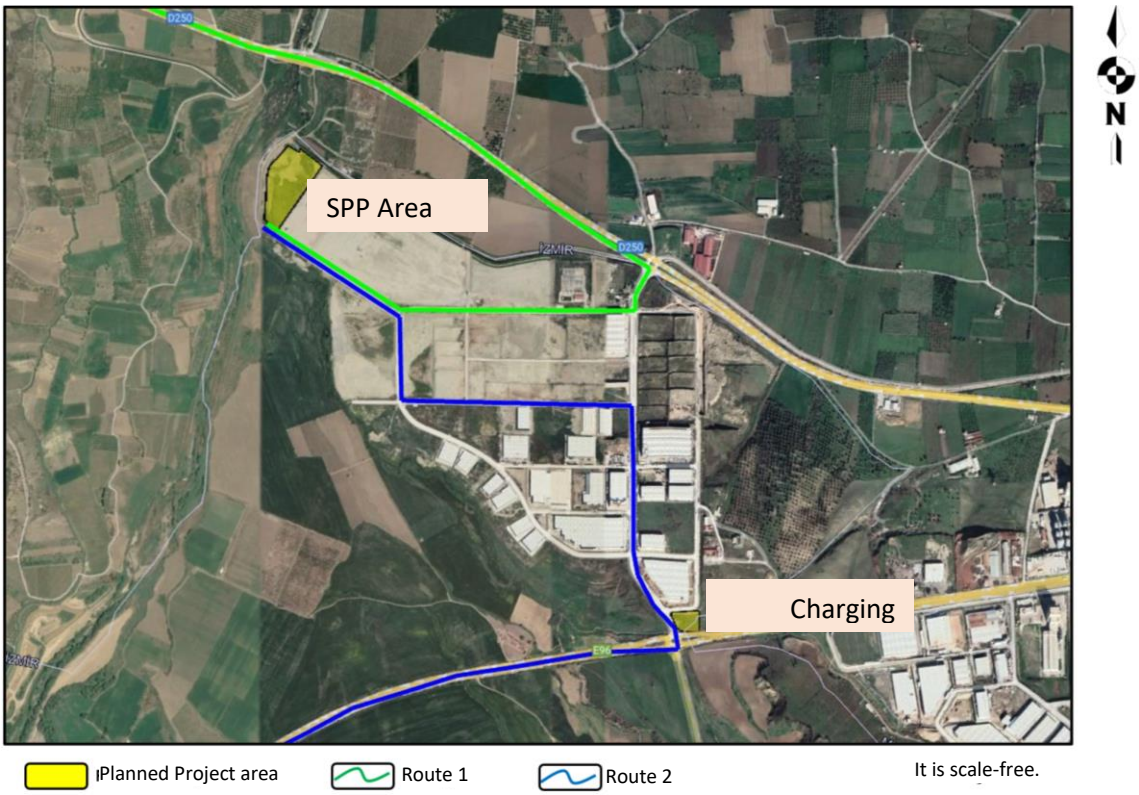


Figure 52: Project Area Traffic Route

6.4.1.2 Operation Phase

During the operation phase of the project, there will be no fixed personnel working in the project area. The area secured with a wire fence will be checked during routine patrols by the security team within the OIZ.

The Project area will only be visited during maintenance and repair and panel washing operations, which will be carried out once or twice a year. Therefore, no traffic impact is expected during the operation phase of the Project.

6.4.2 Occupational Health and Safety

6.4.2.1 Construction Stage

Within the scope of the construction phase of the project, it is planned to level the site, drive the panel legs into the ground, install the panels, and install cables and transformers.

Prior to the commencement of land preparation and construction works, the Contractor shall prepare a site specific Occupational Health and Safety and Safety Management Plan (including Emergency Preparedness and Response) for the Project, based on risk assessment to be carried out for all works, in accordance with Turkish legislation and international standards.

During the construction phase of the project, there will be a noise effect when the panel feet are driven into the ground. The intensity of the impact will be moderate. In this context, it will be ensured that employees wear earplugs.

Vibration effect is expected during the hammering of the panel legs. Since there will be no workers on the machine used for this process, the vibration effect will be low for the workers.

It is possible to generate dust from construction machinery. Since the number of vehicles is one or two vehicles and there is no continuous operation, the effect will be low. At this stage, irrigation will be done if necessary.

Since there will be no welding process and hazardous chemical use in the project area, no OHS impact is expected in this context.

No electrical equipment will be used during the construction phase of the project. However, an OHS effect due to electricity is expected during the transformer connections. The severity of this effect is expected to be moderate. In this context, it will be ensured that expert personnel are employed, grounding procedures are carried out and protective equipment is used. Other employees will be prevented from entering the area and warning signs will be put up.

There will be no rotating and moving equipment during the construction phase of the project. Therefore, no OHS impact is expected in this context.

During the construction phase, the Occupational Health and Safety Regulation in Construction Works dated 05.10.2103 and numbered 28786 will be complied with and in this context, the contractor will provide the following conditions, but not limited to:

a. The project area will be kept tidy and sufficiently clean,
b. In the selection of working places in the construction area; access to these places and the designation of areas or paths for equipment, movement and passages will be considered,
c. Regulation of the conditions of use and transportation of the material will be provided,
d. Technical maintenance and controls of facilities and equipment will be conducted before they are put into use and periodically,
e. Appropriate storage areas for various materials, especially hazardous materials and substances, will be allocated and boundaries of these areas will be determined,
f. Regulation of the use of hazardous materials and the conditions for their removal will be provided,
g. Appropriate storage, disposal or removal of waste and residues will be performed,
h. The time periods for various works or phases of work according to the status of the work at the construction site will be redefined as needed,
i. Cooperation between subcontractors and self-employed persons will be provided,
j. Interaction with industrial activities in or near the construction area will be considered,
k. Regulation on the Use of Personal Protective Equipment in Workplaces published in the Official Gazette dated 02.07.2013 numbered 28695 and harmonized national standards will be complied with and the use of personal protective equipment by employees will be ensured.

Project Manager and Contractor Responsibilities:

The Contractor may fulfill OHS obligations personally or may appoint one or more project managers with the necessary scientific competence to act on his behalf.

The appointment of one or more health and safety coordinators will not relieve the project officer or contractor of their responsibilities in occupational health and safety matters. The Contractor will have a full-time Occupational Health and Safety Specialist, who is responsible for the contractor's occupational health and safety, with relevant certification and experience, and s/he will control and monitor the field applications.

The appointment of health and safety coordinators and their performance of their duties will not affect the responsibility of subcontractors. All units involved in the project will fully implement occupational health and safety practices.

The OHS performance of the Project will be examined under the following headings:

- working conditions,
- recruitment based on vocational qualification and professional qualification,
- personnel training,
- identification of OHS risks,
- use of appropriate protective equipment,
- availability of appropriate warning signs,
- safety of the work site,
- compliance of health and safety regulations,
- accident frequency rate and near miss frequency rate.

The contractor shall fulfill these conditions.

In addition, precautionary plans/procedures, including the specific measures presented below, will be prepared and implemented during the construction and operation phases of the project to prevent potential project impacts related to the COVID-19 pandemic.

During the preparation of these plans and procedures, official announcements of the institutions, WHO and WB standards will be taken into account. As these documents and announcements are updated, plans and procedures will be regularly updated accordingly.

If a person develops a fever, cough or other COVID-19 symptom, that person will immediately stop work, stay at home (except to seek medical care or testing if recommended) and withdraw from others.

In this context, work will be carried out in accordance with the following regulations:

- 05.10.2103 dated 28786 numbered Regulation on Occupational Health and Safety in Construction Works
- 02.07.2013 dated and 28695 numbered Regulation on the Use of Personal Protective Equipment in Workplaces
- 29.12.2012 dated 28512 numbered Occupational Health and Safety Risk Assessment Regulation
- 24.05.2018 dated 30430 numbered Regulation on the Procedures and Principles of Occupational Health and Safety Trainings of Employees
- 11.09.2013 dated 28762 numbered Regulation on Health and Safety Signs
- 24.05.2018 dated Working Time Regulation on Labor Law
- 24.12.2013 dated 28861 numbered Regulation on Supporting Occupational Health and Safety Services
- 23.08.2013 dated 28744 numbered Regulation on Occupational Health and Safety in Temporary or Fixed Term Works
- 24.07.2013 dated 28717 numbered Regulation on Manual Handling Works

- 18.06.2013 dated 28681 numbered Regulation on Emergency Situations in Workplaces
- 15.05.2013 dated 28648 numbered Regulation on the Procedures and Principles of Occupational Health and Safety Trainings of Employees
- 25.04.2013 dated 28628 numbered Regulation on Health and Safety Conditions in the Use of Work Equipment
- 18.01.2013 dated 28532 numbered Regulation on Occupational Health and Safety Boards
- 06.04.2004 dated 25425 numbered Regulation on Working Hours Related to Labor Law

In addition, no work will be carried out in violation of international conventions such as Convention No. 161 on Occupational Health Services and Convention No. 155 on Occupational Health and Safety and the Working Environment.

The importance of OHS risks and impacts that will occur during the construction phase have been evaluated. (Table 38)

Table 38 OHS risks and impacts in construction stage

CONSTRUCTION PHASE		
Hazard/ Hazardous Event	**Risk**	**Control Measures**
Working at height	Fall from height	- Training - Suitable equipment
Working with stairs and ladder	Fall from height	-Training - Suitable equipment
Slips, Trips and Falls	Injury	-Training - Working areas clear from clutter or obstructions
Sharp edges	Sharp injuries	-Training -Suitable equipment
Manual handling activities	Injuries, including musculoskeletal disorders	-Training -Safe handling procedure
Temperature Conditions - Cold	Hypothermia dangerous overcooling of the body	- Constant observation -Training - Breaks in a warm area
Temperature Conditions - Hot	Heatstroke	-Training -To create shade -Taking more frequent rest breaks
Noise	Hearing loss	-Training -Suitable equipment
Electrical Safety	Loss of limb or death and fire	-Training -Safe handling procedure -recruiting qualified employee --Safeguarding devices (interlock switches)
Machinery Safety	Loss of limb or death	-recruiting qualified employee -Training -Machine maintenance document

Hand Tools	- Loss of limb	-Training -Suitable equipment -visual inspection

6.4.2.2 Operation Stage

All OHS measures and organization related to the maintenance and repair team that will work during the operation phase will be carried out by Bağyurdu OIZ Directorate. All issues such as the security of the project area, selection and training of personnel to work in maintenance and repair, identification of risks and use of appropriate protective equipment will be organized by the OIZ Directorate.

During the operation phase of the project, there will be only maintenance and repair activities. There is a risk of electric shock during transformer maintenance and repair. For this reason, maintenance and repair operations will be carried out by experts. Warning signs regarding electrical hazards will be posted.

There is a risk of falling due to working at height (3.5 m) during panel maintenance and repair. However, its effect is low. Measures will also be taken in this regard.

There are ergonomic risks when transporting replaced panels. The effect is low due to the panel weights. However, personnel will be trained in this regard as well.

Risks related to maintenance and repair activities that may occur during the operation phase will be managed by Bağyurdu OIZ Directorate through the establishment of work permit systems, locking and labeling systems, informing and training employees on workplace-specific hazards and risks, selection of competent personnel, use of appropriate PPE, and work entry and periodic health checks by the workplace physician. During the operation phase of the project, an Occupational Health and Safety Management Plan (including Emergency Preparedness and Response) will be prepared and implemented, based on the risk assessment to be made in all works, in accordance with Turkish legislation and international standards.

The importance of the OHS risks and impacts that will occur during the operation phase has been evaluated (Table 39).

Table 39 OHS risks and impacts in operation stage

OPERATION STAGE		
Hazard/ Hazardous Event	**Risk**	**Control Measures**
Working with stairs and ladder	Fall from height	-Training - Suitable equipment
Slips, Trips and Falls	Injury	-Training - Working areas clear from clutter or obstructions
Sharp edges	Sharp injuries	-Training -Suitable equipment
Manual handling activities	Injuries, including musculoskeletal disorders	-Training -Safe handling procedure
Temperature Conditions - Cold	Hypothermia dangerous overcooling of the body	- Constant observation -Training - Breaks in a warm area
Temperature Conditions - Hot	Heatstroke	-Training -To create shade -Taking more frequent rest breaks
Electrical Safety	Loss of limb or death and fire	-Training -Safe handling procedure -recruiting qualified employee --Safeguarding devices (interlock switches)
Machinery Safety	Loss of limb or death	-recruiting qualified employee -Training -Machine maintenance document
Hand Tools	- Loss of limb	-Training -Suitable equipment -visual inspection

6.4.3 Community Health and Safety

6.4.3.1 Construction Stage

The following potential impacts were identified during the construction phase of the Project.

- Speed and road damage in transport and traffic; increased risk of traffic and road traffic accidents and injuries,
- Risk of spread of infectious diseases, including COVID-19,
- Damage to existing underground utility cables and pipes and disruption of services,
- Noise and vibration,
- Increased demand on existing community health and sanitation infrastructure due to the influx of temporary workers and camp followers,
- Threat to community culture, safety and security linked to the presence of construction workers and business opportunists, 10 people will work during the construction phase of the

project and there will be no accommodation in the project area. Only daytime work will be carried out in the project area. Training will be given on the code of conduct.

- Risk of infectious diseases such as sexually transmitted diseases due to labor flows and interaction of temporary workers with host communities,
- Impact of the project area on accessibility for the community
- Impact of construction on potentially vulnerable groups.

Since the highway and OIZ internal roads will be used for transportation and traffic to the project area, no increase in traffic will be caused. Since the project area is within the OIZ and infrastructure works have been completed, there is no situation that will disrupt public services in the project area. There will be no impact on community culture and safety as there will be no camps or construction sites for the project workers. There will also be no interaction with society. As the Project area is located within the OIZ, no impact on community transportation and sensitive groups is expected.

There are no settlements around the Project area. The noise and vibration that may occur during the construction of the Project have been modeled and determined to meet the limit values. Therefore, no significant impact is expected on community health and safety resulting from noise and vibration during construction phase.

The SPP Project area will be surrounded by a wire fence to prevent access and negative impacts on public health will be prevented with warning signs and additional security measures.
Awareness raising activities will be organized for workers and security personnel in order to prevent cultural problems due to rude behavior of workers and/or security personnel towards the population of the area related to gender-based violence (GBV) and sexual exploitation and abuse and sexual harassment (SEA/SH) and attitudes that disrupt the environment such as noise.

In addition, all measures and protective equipment will be provided according to the development of the Covid-19 pandemic process.

Workers who do not have the Covid 19 vaccine will not be employed. Daily body temperature checks will be taken. In case of symptoms, the worker will not be employed, and other workers will be tested.

6.4.3.2 Operation Stage

During the operation phase of the project, there will be no potential impacts mentioned above as there will be no permanent employees within the scope of the project and the SPP will be in a fenced area within the OIZ. Entry to the project area will be prevented except for authorized persons. Wire fences to be created for this purpose will be checked. Thus, the negative effects that may occur due to uncontrolled entry will be prevented.

6.4.4 Working Conditions and Labor Management

Law No. 6331 on Occupational Health and Safety regulates the duties, authorities, responsibilities, rights and obligations of employers and employees to ensure occupational health and safety in workplaces and to improve existing health and safety conditions.

Bağyurdu OIZ will contact consultants and contractors to address environmental, social and occupational health and safety issues arising from the project.

Bagyurdu OIZ will be responsible for the following:

- Ensure that contractors prepare labor management procedures (Contractor's LMP) in line with the LMP and ESMF (including Occupational Health and Safety requirements) for approval prior to the construction phase,
- Monitor that contractors/subcontractors fulfill their obligations to contracted workers as set out in the ESMF and relevant procurement documents in accordance with ESS2, national labor and OHS laws,
- Keeping records of recruitment and employment processes of direct reports,
- Monitor the potential risks of child labor, forced labor and serious safety issues in relation to primary support workers,
- Monitor the training of relevant project staff,
- Ensure that a grievance mechanism for project workers is established and implemented and that workers are informed about it,
- To train the employees with Code of Conduct and to monitor their compliance,
- Monitor that occupational health and safety standards are met in workplaces in line with national occupational health and safety legislation, ESS2 OHS requirements, occupational health and safety plan and WHO and WB guidelines on COVID-19 prevention,
- Monitor the training activities of project staff on OHS, prevention of sexual harassment/sexual abuse and other necessary trainings,
- Monitor the functioning of the Grievance Mechanism for the public, that
- it is properly announced, used and functioning
- Ensure that a grievance mechanism for project staff is in place and monitor and report on its implementation,
- Monitoring employees' compliance with work behavior rules,
- Establish and implement a procedure for documenting specific project-related incidents such as occupational accidents, illnesses and time-loss accidents. Such records must be kept and maintained by all third parties and primary suppliers. Such records will serve as data for regular reviews of OHS performance and working conditions.
- In cases of severe, fatal and mass accidents, informing law enforcement, Labor Inspectorate and MoIT,
- Ensure that project contractors take COVID-19 precautionary measures in line with WB and WHO guidelines.

In addition to legal requirements and the OIZ's Labor Management Procedure, project contractors will be responsible for the following:

- Employ or engage qualified social, labor and occupational safety experts to implement the project specific labor management procedure, occupational health and safety plans and manage the performance of subcontractors,
- Adapt the OHS plan to be applied to contract and subcontracted workers. These procedures and plans will be submitted to the OIZs for review and approval before the contractor commences pre-construction site set-up and field work.
- Supervise subcontractors' adherence to the IYP and OHS plans,
- Keeping records of the recruitment and employment processes of contracted employees,
- Follow up the employment process of subcontracted workers to ensure that it is carried out in accordance with this labor management procedure and national labor law,
- Provide written contracts to the contracted workers with job description, wages, working hours, rights and duties fully described

- Developing and implementing a grievance mechanism for employees, evaluating complaints from contracted and subcontracted workers,
- Establish a system for regular review and reporting on labor and OHS performance,
- Provide regular induction trainings to employees, including but not limited to OHS, social familiarization, Code of Conduct, Sexual Harassment/Sexual Abuse prevention trainings,
- Ensure that all contractor and subcontractor employees understand and sign the Code of Business Conduct before starting work,
- Establish and implement a procedure for documenting specific project-related incidents such as occupational accidents, illnesses and time-loss accidents. Maintain such records and require all third parties and key suppliers to maintain them. Such records will serve as data for regular reviews of OHS performance and working conditions.
- Notify law enforcement, Labor Inspectorate and OIZ in case of severe, fatal and mass accidents,
- Train staff on current WHO recommendations on the prevention of COVID-19 infection,
- Ensure all employees participate in trainings and raise awareness to reduce the spread of COVID-19,
- Conducting health checks of workers to prevent COVID-19,
- Monitor, audit and report on health and safety issues related to COVID-19 (COVID-19 focal point),
- Ensuring that workers are provided with PPE (face protection, gloves, disinfectants) to prevent COVID-19 and that hand washing facilities are available.

6.4.4.1 Construction Stage

Personnel will be employed by the Contractor during the construction phase of the Project.

Where possible, options for employment of local labor will be considered. Child labor and forced labor shall be prohibited. All Turkish Laws and International Labor Organization (ILO) Conventions on child labor, forced labor, discrimination, freedom of association and the right to collective bargaining will be complied with.

Labor flow is a risk arising from the prolonged stay of workers during construction. However, since the number of personnel to work in the project is limited to 10 people, no labor flow is expected. Due to the nature of the project, 10 workers will be employed. However, as the works to be carried out within the scope of the Project requires specific qualifications no workers will be employed around the project area.

No camps or construction sites are envisaged during the construction phase and therefore impacts that may arise from these conditions have not been assessed.

On-the-job and OHS trainings of all employees will be given and recorded within the scope of the Regulation on the Procedures and Principles of Occupational Health and Safety Trainings of Employees published in the Official Gazette numbered 30430 and dated 05.2018.

6.4.4.2 Operation Stage

During the operation phase of the project, there will be no permanent employment as there will be work only during maintenance and repair. Security will be provided by existing routine security patrols within the OIZ.

6.4.5 Cultural Assets

The project area is within the boundaries of OIZ. Necessary evaluations were made by the authorized institutions and organizations related to Cultural Assets during the selection of the OIZ location. Therefore, there are no known cultural assets in or around the project area.

If any cultural property is found during construction (excavation) works ("chance find"), the Chance Find Procedure will be implemented and any findings will be reported to the local authorities. In such cases, construction works will be stopped immediately, the area will be taken under protection, and the Provincial Directorate of Culture will be notified. The construction works will not resume unless permitted by the relevant authority.

6.4.6 Land Acquisition and Livelihood Loss

The project area is under the ownership of Bağyurdu OIZ. Therefore, there will be no expropriation or land purchase under the project. In addition, all stages related to the Zoning Status of the project area have been completed. Transportation of materials and employees to the project area will be provided via the highway. The highways have a direct connection to the OIZ. In addition, no excavation will be carried out during land preparation. Therefore, there is no erosion risk on the surrounding lands.

Therefore, there will be no loss of land, assets and livelihoods of local communities due to construction needs during the project construction phase.

6.4.7 Vulnerable Groups

As the project will take place in a narrow area (on some part of two parcels) within the OIZ, there will be no impact on vulnerable groups during the construction phase, such as persons with disabilities, children or elderly, refugees, groups with livelihood dependency in the project areas.

Since there are no schools around the project area and it is not on the school route, there will be no impact on children's transportation or especially on women.

Necessary measures such as Code of Conduct, and trainings of work force) will be taken against sexual exploitation and abuse and sexual harassment.

The fact that the project area is located on an independent parcel within the OIZ, that there will be a small number of 10 employees in the project construction, that there will be no camps or construction sites in and around the project area, so the workers will not reside here, and the project construction period is very short which reduces the risks in this regard.

Nevertheless, a grievance mechanism for workers will be established and updated. Procedures will be established to promptly notify both the MoIT and the World Bank of complaints in this regard.

Likewise, it will be ensured that both Bağyurdu OIZ and all contractors and subcontractors have a Code of Conduct and that it is signed by each worker and that they understand and sign the Code of Conduct before work commences.

7. ENVIRONMENTAL AND SOCIAL MITIGATION PLAN

The environmental and social mitigation plans for the preparation, construction and operation phases are presented in Table 40, Table 41 and Table 42, respectively. During the implementation of the mitigation plans, the most stringent among the national legislation and WB standards and also the most up-to-date legislation will be complied.

Table 40 Preparation Phase Environmental and Social Mitigation Plan

No	Description of Potential Impact	Mitigation Measures	Responsibility	Cost	Performance Indicator
		PREPARATION PHASE			
1	**Legal Compliance-ESS1** Project stalled due to lack of legal permits	• Obtaining EIA Certificate within the scope of EIA Regulation and EMRA License Preliminary Permits	Bağyurdu OIZ	Equities	EIA Certificate EMRA Permission
2	**Stakeholder Engagement-ESS10** Objections and obstruction efforts during the project/design phase due to lack of information to the people who are likely to be affected by the project	• Organizing a Stakeholder Participation Meeting, establishing a grievance and suggestion mechanism in order to inform the persons and organizations that are likely to be affected by the Project as specified in the SEP, about any adverse environmental and social risks and how to submit any grievances, if required.	Bağyurdu OIZ	Equities	Minutes of the Meeting Complaint and Suggestion Mechanism
3	**ESMP-ESS1, Occupational Health and Safety-ESS2 and Community Health and Safety-ESS4** Environmental pollution or social damage or OHS accidents/incidents caused by the Contractor's lack of awareness of Environmental and Social Impacts	• Preparation of the following plans and procedures for the approval of Bağyurdu OIZ and the Supervision Consultant by the Contractor before the commencement of construction works: − Occupational Health and Safety (OHS) Plan based on construction site OHS risk assessment, including work procedures (such as permit to works etc.), checklists and daily record forms − Accident/incident Investigation and Reporting and Root Cause Analysis Procedure, including accident/incident record forms for OHS and ES. Corrective and preventive actions and methods will be included in the procedures. − Non-Conformity / Non-Compliance and Corrective / Preventive Action Procedure, including corrective / preventive actions forms for OHS and ES and non-conformity / non-compliance record forms − Emergency Preparedness and Response Plan, including community health and safety issues	Contractor	Included in construction costs	Management Plans and Procedures

		– Labor Management Plan (LMP) (including Worker Code of Conduct) (taken from the Project's Labor Management Procedure) – Grievance Mechanism Procedure including Grievance Register			
4	**Stakeholder Engagement-ESS10** Project stalled due to lack of Stakeholder Engagement Process and failure to receive suggestions and complaints	• Organizing a Stakeholder Engagement Meeting • Informing the persons or organizations likely to be affected by the project about the project • Collection and evaluation of suggestions and complaints about the project	Bağyurdu OIZ	Equities	Public Participation Meeting Minutes

Table 41 Construction Phase Environmental and Social Mitigation Plan

No	Description of Potential Impact	Mitigation Measures	Responsibility	Cost	Performance Indicator
		CONSTRUCTION PHASE			
1	**Community Health and Safety-ESS4** Access from outside and accidents that may occur due to lack of security of the project area	• The perimeter of the construction areas (i.e. SPP area) will be blocked with a wire fence and a security strip to the Fast Charging Station area will be provided. • Warning signs will be hung. •	Contractor	Included in construction costs	Wire Fence and Security Strip Warning Signs
2	**Labor and Working Conditions-ESS2 and Pollution Prevention-ESS3** Environmental and occupational accidents due to lack of competent and sufficient labor force.	• Providing necessary induction trainings on environmental, social and OHS issues to all personnel at the beginning of the project and recording them	Contractor	Included in construction costs	Training Participation Forms Training registrations
3	**Labor and Working Conditions-ESS2** Work stoppage due to legal non-compliance in Human Resources and Workforce Management	• Concluding written contracts with workers upon recruitment, including terms and conditions of employment and rights in accordance with national legislation • Keeping personnel data files including contracts, training records, signed codes of conduct, health reports • Keeping database records for employees, workers and subcontractors such as contracts, ID numbers, SSI numbers, age, gender, health reports • Payment of contractual wages to workers in full and on time • Carrying out controls related to the employment of unregistered workers	Contractor	Included in construction costs	Personnel Contracts Personnel Files Payrolls Number and nature of work-related grievances
4	**Occupational Health and Safety-ESS2**	• Implementing OHS Plan, Emergency Preparedness and Response Plan, Accident/incident Investigation and Reporting and Root Cause	Contractor	Included in construction costs	Number of warning lights Number of occupational safety meetings

	Work stoppage due to work accident (lack of appropriate OHS measures/unsafe work environment)	Analysis Procedure, and Non-Conformity / Non-Compliance and Corrective / Preventive Action Procedure • Placing safety barriers and warning signs around work areas • Conducting occupational safety meetings/toolbox talks with workers before starting work every day • Providing appropriate type and number of fire extinguishing equipment in each working area • Providing periodic training to the workers on OHS issues including emergency response such as firefighting and recording all provided trainings • Legal periodic inspection of work equipment at the construction site by an authorized expert • Daily control of work equipment by its operators • First aid boxes for each work team for first aid response • Providing certified first aid training to workers • Establishment of a first aid team consisting of workers for each work zone • Providing workers with Personal Protective Equipment (PPE) specific to their tasks • Provide a safe and healthy work environment for the workers. • Provide equipment that meets international standards in terms of performance and safety • Inform all workers about the required safety rules, risks, and related regulations to be followed at the construction site throughout the construction period • Establish emergency teams and carry out training/drills according to the emergency scenarios • Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.) as well as near misses. • Project owner will ensure that all OHS measures are taken by the Contractor and enforce necessary actions/sanctions in case lack of these measures on sites • Contractor will have a full-time Occupational Health and Safety Expert with relevant certification and experience in charge of occupational health and safety and s/he will control and monitor the site implementations. • The Contractor will promptly notify the OIZ in case of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected			Number of checklists for firefighting equipment Number of personnel trained in fire fighting Number of personnel assigned to the firefighting team Number of OHS inspections Number and nature of noncompliance reports Number of unsafe observations Number of accidents, incidents, and near misses Number of toolbox talks Number of OHS trainings and trained workers

		communities, the public and workers such as OHS accidents or that result in threatening community health and safety and the OIZ will immediately (not later than 48 hours) inform MoIT, and MoIT will inform the World Bank. In such cases, the OIZ will provide sufficient details regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervising entity/consultant, as appropriate. The OIZ will submit the incident report, including root cause analysis, precautions and compensation measures taken, to MoIT within 30 business days. MoIT will forward the incident report to the Bank immediately upon receipt from the OIZ. • Traffic safety will be provided. • Necessary safety markings will be made in the working environment. • Manual Transport, Uninstallation and Installation Procedures will be prepared and implemented and employees will be trained about Mobile Equipment Safety and necessary precautions will be taken. • Within the scope of electrical safety, work will not be carried out other than authorized and competent persons.			
No	**Description of Potential Impact**	**Mitigation Measures**	**Responsibility**	**Cost**	**Performance Indicator**
		CONSTRUCTION PHASE			
5	**Traffic and Pedestrian Safety-ESS4** Social negativities and complaints due to traffic obstruction within the OIZ	• No material storage on the roads within the OIZ • Vehicles carrying construction machinery and materials will not park outside the project area and parking lot • Setting speed limits • Protectors carrying work machines and materials must have appropriately qualified persons. • Hanging warning signs about speed limit in the Project Area	Contractor	Included in construction costs	Number of complaints Driver's licenses Warning signs on speed limits
6	**Pollution Prevention-ESS3 and Community Health and Safety-ESS4** Air pollution that may occur due to vehicles to be used during material transportation and installation phase	• Periodic maintenance and exhaust inspections of all vehicles to be used within the scope of the project • Use of new and well-maintained vehicles • Avoid unnecessary use of machinery and equipment causing emissions • Training of workers on management of air emissions • Implement grievance mechanism	Contractor	Included in construction costs	Inspection record Exhaust Inspection record Number and nature of related grievances Training records Visual controls Vehicle exhaust emission control documents

		• Carrying out periodic inspection of exhaust emissions of work equipment • Speed limit for trucks that will create dust on the terrain • Systematic water spraying in work areas			Number of open complaints regarding dust emission
7	**Land Use-ESS3** Soil loss due to unnecessary and wrong excavation	• No excavations other than land remediation within the scope of the project • Not taking unnecessary soil, not bringing soil from outside to the project area and not sending soil to outside • No work outside the designated Project area • No excavation that will create erosion hazard in the surrounding lands • Although there will be limited soil to be excavated, in case excavation waste is generated, it will be transported to one of the licensed excavation waste storage areas designated by the Municipality in compliance with the national legislation and WB standards. • Topsoil will be stripped about 25 cm and stored separately for landscaping activities, if need be.	Contractor	Included in construction costs	Visual controls Excavation Waste Records
8	**Resource Efficiency, Pollution Prevention-ESS3** Environmental and legal non-compliances due to the use of groundwater and surface water	• No extraction of water from the project site or use of surface water from areas close to the project during the construction phase of the project • Meeting the water needs of the personnel not from the project area but from the OIZ facilities • Meeting the drinking water needs of the staff with bottled water	Bağyurdu OIZ Contractor	Equity Included in construction costs	Facility Usage Information Water Bills
9	**Pollution Prevention-ESS3** Soil and water pollution caused by wastewater generation due to improper practices during the construction phase	• No operations such as work machine and vehicle washing in the project area • No discharge to any receiving environment • Preventing wastewater generation from personnel at the site. Employees will use the OIZ facilities and domestic wastewater generated within the body of Bağyurdu OIZ is sent to Kemalpaşa OIZ central wastewater treatment plant.	Contractor	Included in construction costs	Visual controls
10	**Pollution Prevention-ESS3** Air pollution due to dust emission during land leveling	• Dust suppression by water spraying in case of dusting during land leveling • Water to be used for dust suppression will be provided by water tankers • Ensure compliance with the air emission limit values addressed in “Regulation on Assessment and Management of Air Quality” and WBG General EHS Guidelines.	Contractor	Included in construction costs	Number of water spray vehicles Total km/day of water spray vehicles Number and nature of related grievances Training records

		• If excavation waste/soil or similar material will need to be transported, the trucks will be covered to decrease dust emission. • Training of workers on management of air emissions • Implement grievance mechanism • Dust measurements will be conducted by an authorized laboratory if any grievance regarding dust generation is received from the nearest receptors. If measured levels reveal any indication for possible pollution due to the Project, mitigation measures here will be enhanced in this respect such as use of wind shield and barriers, protective covers or curtains for the areas where most of the dust is formed.			Number and nature of relevant noncompliance
11	**Pollution Prevention-ESS3** Complaints of vibration during the driving of panel legs into the ground and damage to surrounding buildings	• Observation of the areas likely to be affected before and after driving the panel legs • In case of a complaint, not to carry out driving the panel legs without taking the necessary precautions • Training of workers on vibration management • Implement grievance mechanism • Limit working hours • Inform nearby sensitive receptors about the time and content of construction activities • Vibration measurements will be conducted by an authorized laboratory if any grievance regarding vibration is received from the nearest receptors. If measured levels reveal any indication for possible vibration impact due to the Project, mitigation measures here will be enhanced in this respect.	Contractor	Included in construction costs	Number and nature of complaints Observation Records, Training records
12	**Pollution Prevention-ESS3** Noise complaints and negative impact on employee health caused by construction machinery during the driving of panel legs into the soil	• According to the modeling, the noise level will be around 62 dBA at the nearby receptor. For this reason, works will be carried out during only the daytime, not at night. • Noise measurements will be conducted by an authorized laboratory if any grievance regarding noise is received from the nearest receptors. If measured levels reveal any indication for possible noise impact due to the Project, mitigation measures here will be enhanced in this respect. • Further limit working hours, if need be. • Inform nearby sensitive receptors about the time and content of construction activities. • Training of workers on noise management. • Implement grievance mechanism.	Contractor	Included in construction costs	Number and nature of Complaints Noise Measurement Report Headset Delivery Record Training records Number and nature of relevant noncompliance

		• Provide appropriate ear protection equipment to the workers. • Ensure compliance with the noise limit values provided in national legislation and WBG General EHS Guidelines. • Do not operate construction equipment simultaneously.			
No	**Description of Potential Impact**	**Mitigation Measures**	**Responsibility**	**Cost**	**Performance Indicator**
CONSTRUCTION PHASE					
13	**Pollution Prevention-ESS3** Soil pollution due to domestic wastes from workers in the project area	• Undertake measures for minimum waste generation such as training personnel to raise awareness and manage in accordance with waste management hierarchy (prevent, reduce, reuse, recycle, recover, dispose). • Providing food and beverage needs of the employees in the OIZ facilities • Not allowing activities that may generate domestic waste in the project area • Placing separate collection containers for domestic waste to be generated against the measures and sending it to the waste site within the OIZ • Domestic wastes to be generated in the project site will be collected in temporary containers and stored in OIZ containers. These will be collected by Kemalpaşa Municipality and transported to licensed sanitary landfill. • Wastes other than domestic waste will be collected separately and sent to licensed facilities within the OIZ and recorded.	Contractor	Included in construction costs	OIZ food registrations Domestic Waste Containers Training records
14	**Stakeholder Engagement-ESS10** Failure to fulfill project requirements due to lack of communication with legal authorities and communities	• Keeping the Complaint and Suggestion mechanism open at all times • Paying attention to Notification and Reporting periods • Implementing SEP and GM	Bağyurdu OIZ Contractor	Equities Included in construction costs	Number and nature of Suggestions and Complaints
15	**Pollution Prevention-ESS3** Negative impact on the circular economy due to the fact that the recyclable wastes that may occur within the scope of the project are not stored separately.	• Providing training to employees on waste management • Contracting with licensed facilities • Establishment of separate and defined waste containers for recyclable waste • Separate collection of recyclable waste and sending these to licensed recycling facilities. • Performing controls to prevent incorrect assembly or panel damage during the installation of solar panels. Damaged solar panels will be considered as “Discarded electrical and electronic equipment containing hazardous parts other than 20 01 21 and 20 01 23”	Contractor	Included in construction costs	Training registrations Licensed Facility Agreements Waste Shipment records Number of damaged panels

		according to relevant national legislation and will be disposed of accordingly.			
16	**Pollution Prevention-ESS3** Soil pollution and risk of occupational accidents due to storage of metal wastes from panel legs and assembly equipment on the land	• Not leaving metal wastes in the area at the end of the work during construction • Not mixing metal waste with other wastes	Contractor	Included in construction costs	Visual controls
17	**Pollution Prevention-ESS3** Soil and water pollution due to hazardous wastes in the project area	• Collection of hazardous wastes that may occur in the project area in defined separate containers • The technical requirements for the temporary waste storage area will be provided (such as impermeable floor, roofed, equipped with spill kits and suitable firefighting equipment, labeled, having separate compartments, etc.) • Preventing the formation of contaminated waste by mixing with other wastes • Ensuring disposal by sending to licensed disposal facilities via licensed waste transportation companies • Carrying out Hazardous Waste Financial Liability Insurance • Providing training to employees on waste management	Contractor	Included in construction costs	Visual controls Waste Site Licensed Facility Agreements Financial Liability Insurance Training records
18	**Pollution Prevention-ESS3** Soil and water pollution caused by substances such as oil, filters, etc. from maintenance and repair of construction machinery and vehicles	• Work machine and vehicle maintenance and repair operations will not be carried out in the project area. • Maintenance and repair operations will be carried out at the services.	Contractor	Included in construction costs	Maintenance and repair records
No	**Description of Potential Impact**	**Mitigation Measures**	**Responsibility**	**Cost**	**Performance Indicator**
		CONSTRUCTION PHASE			
19	**Pollution Prevention-ESS3** Soil pollution due to leakages such as diesel oil and oil due to malfunctions of vehicles used in project construction (accidental spillages/leakages)	• Periodic maintenance and repair of vehicles on time • Availability of intervention kits to be used in emergencies in the field • Training employees on spills and leakages • Disposal of the waste as hazardous waste • Keeping records related to emergencies	Contractor	Included in construction costs	Emergency response kits Training registrations Emergency Records
20	**Labor and Working Conditions-ESS2** Work stoppages and slowdowns due to workers' unhappiness with inappropriate working conditions	• Implementation of the Grievance Mechanism Procedure for workers • Keeping a record of all verbal and written complaints • Responding to complaints in a timely manner and implementing corrective actions where necessary	Contractor	Included in construction costs	Number and nature of complaints received Number of responses to complaints

21	**Community Health and Safety-ESS4** Social discomfort due to rude behavior of workers in Project Construction	• Training employees on codes of conduct and on prevention of GBV, SEA/SH • Preventing recurrence by taking action in case of complaints	Contractor	Included in construction costs	Training registrations Number and nature of complaints
22	**Pollution Prevention-ESS3** Soil and water pollution due to waste site non-compliance, legal non-compliance	• Establishment of a covered temporary waste storage area with impermeable floor • Locking of temporary waste storage area and appointment of a competent worker specifically trained in hazardous waste • Ensuring separate storage of hazardous and contaminated waste • Avoid mixing of hazardous wastes with other type of waste • Collection of all hazardous waste from work areas at the end of the working day and transportation to hazardous waste storage areas • Collection of medical waste in red bags and red containers labeled as medical waste in OIZ facilities • Collection of sharps medical objects in sharps boxes (Within the OIZ) • Placement of warning signs, labeling, fire extinguishers of appropriate size and type to the temporary waste storage area. It will be kept in the project area at the entrance of the temporary storage area and a sign will be hung for easy viewing. • Liability Insurance for Hazardous Wastes • Contracting with licensed hazardous waste disposal facilities • Disposal of waste in accordance with national laws and regulations and WGG General EHS Guidelines. • Keeping waste records • Training of employees on waste management • Spill response kits will be available at the temporary waste storage area.	Contractor	Included in construction costs	Training registrations Waste Management Plan Financial Liability Insurance Licensed facility agreement Waste shipment records
23	**Labor and Working Conditions-ESS2** Negative environmental and social impacts due to unforeseen emergencies	• Implementation of Emergency Preparedness and Response Plan • Training of employees on emergency situations • Establishing emergency teams • Providing training on Dangerous Goods Signs • Conducting emergency drills according to the emergency scenarios	Contractor	Included in construction costs	Emergency Plan Training registrations Drill recordings

No	Description of Potential Impact	Mitigation Measures	Responsibility	Cost	Performance Indicator
		CONSTRUCTION PHASE			
24	**Occupational Health and Safety-ESS2** Work stoppage due to work accidents and legal non-compliance due to lack of OHS Management	• Conducting orientation, induction and hazard class trainings within the scope of the regulation on the procedures and principles of occupational health and safety training of employees • Implementation of the Nonconformity / Nonconformity and Corrective / Preventive Action Procedure, including corrective preventive actions and nonconformity / nonconformity record • Ensuring compliance with applicable national OHS legislation through regularly completed checklists, audit forms and follow-up records • Provide a safe and healthy work environment for the workers. • Provide equipment that meets international standards in terms of performance and safety • Inform all workers about the required safety rules, risks, and related regulations to be followed at the construction site throughout the construction period • Establish emergency teams and carry out training/drills according to the emergency scenarios • Record all accidents and incidents (fatalities, lost time incidents, any significant events including spills, fire, pandemic outbreak or infectious diseases, social unrest, etc.) as well as near misses. • Project owner will ensure that all OHS measures are taken by the Contractor and enforce necessary actions/sanctions in case lack of these measures on sites • Contractor will have a full-time Occupational Health and Safety Expert with relevant certification and experience in charge of occupational health and safety and s/he will control and monitor the site implementations. • The Contractor will promptly notify the OIZ in case of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public and workers such as OHS accidents or that result in threatening community health and safety and the OIZ will immediately (not later than 48 hours) inform MoIT, and MoIT will inform the World Bank. In such cases, the OIZ will provide sufficient details regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate	Contractor	Included in construction costs	Number of personnel without OHS training Number of accident and accident investigation reports Number of corrective/preventive actions Number of OHS inspections Number and nature of noncompliance reports Number of unsafe observations Number of accidents, incidents, and near misses Number of toolbox talks Number of OHS trainings

		measures taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervising entity/consultant, as appropriate. The OIZ will submit the incident report, including root cause analysis, precautions and compensation measures taken, to MoIT within 30 business days. MoIT will forward the incident report to the Bank immediately upon receipt from the OIZ.			
25	**Pollution Prevention-ESS3** Soil pollution caused by ground paints to be used for parking markings in front of the Electric Vehicle Charging Station	• No work on earthen ground • Storage of paint containers in hazardous waste area and sending to licensed facilities • Preference for water-based paints	Contractor	Included in construction costs	Visual Control, Hazardous waste registers
26	**Community Health and Safety-ESS4** Potential adverse impacts on public health and safety resulting from project works	• Hanging the necessary warning signs in the project area • Taking measures to prevent unauthorized access • Preparation and implementation of COVID-19 prevention plans/procedures	Contractor	Included in construction costs	Number of warning signs Project area security fence
27	**Pollution Prevention-ESS3** Soil pollution due to non-management of chemicals	• Presence of MSDSs in the area of use of chemicals • Educating employees about the hazards of chemicals • No storage of chemicals in the project area • Not using banned chemicals	Contractor	Included in construction costs	MSDS Training records
28	**Biodiversity Conservation and Sustainable Management of Living Natural Resources -ESS6** Negative effects on birds due to not using absorbent panels	• Using absorbent panels	Contractor	Included in construction costs	Panel recordings
29	**Labor and Working Conditions-ESS2** **Negative effects on meeting social satisfaction requirements in OIZ facilities in project construction**	• Informing employees about the rules of conduct at the facilities • The openness of the complaint mechanism regarding the inconveniences of the employees	Bağyurdu OIZ Contractor	Included in construction costs	Complaint Records
30	**Cultural Heritage- ESS8** **Chance Find**	• If any cultural property is found during construction works, the Chance Find Procedure (see Annex-15 Chance Find Procedure and Annex: 16 Sample Chance Find Form) will be implemented and any findings will be reported to the local authorities. • In such cases, construction works will be stopped immediately, the area will be taken under protection, and the Provincial Directorate of Culture will be notified. The construction works will not resume unless permitted by the relevant authority.	Contractor	Included in construction costs	Number of chance finds

Table 42 Operational Phase Environmental and Social Mitigation Plan

No	Description of Potential Impact	Mitigation Measures	Responsibility	Cost	Performance Indicator
		OPERATION PHASE			
1	**Pollution Prevention-ESS3** Soil contamination from cleaning of solar panels	• No chemical substances such as detergents will be used in panel cleaning. • Cleaning will be provided with pure water and by spraying equipment. • Number of cleanings will not be more than twice a year. • Unnecessary water usage will be avoided.	Bağyurdu OIZ	Equities (Included in operation costs)	Cleaning Procedure Cleaning records
2	**Pollution Prevention-ESS3** Soil and water pollution due to wastes from maintenance, repair and replacement of inverters and collectors	• Maintenance and repair operations will be carried out by authorized personnel. • The contact of the waste with the soil ground will be prevented. • Segregated waste will be temporary stored at designated waste storage site (Use of the temporary waste storage area within the OIZ) • Separately collected recyclable waste will be sent to licensed recycling facilities • Hazardous wastes will be stored separately and sent to licensed disposal facilities. • Damaged solar panels will be considered as “Discarded electrical and electronic equipment containing hazardous parts other than 20 01 21 and 20 01 23” according to relevant national legislation and will be disposed of accordingly. Damaged solar panels will be stored separately and send to licensed recycling facilities.	Bağyurdu OIZ	Equities (Included in operation costs)	Maintenance and repair records Waste Shipment Records Licensed facility agreements
3	**Pollution Prevention-ESS3** Air pollution and biological losses due to fire caused by electric arc	• Preparation of periodic maintenance plans • Performing periodic maintenance at specified times • Availability of appropriate firefighting equipment in the project area • Preparation and implementation of Emergency Preparedness and Response Plan • Establishing emergency teams • Training of employees on emergency situations and conducting fire extinguishing drills	Bağyurdu OIZ	Equities (Included in operation costs)	Periodic Maintenance Plan Periodic Maintenance Records Fire Extinguishing Equipment Fire extinguishing drill records
4	**Community Health and Safety-ESS4** Negative impacts on public health due to accidents caused by unauthorized persons entering the SPP area	• Preventing unauthorized persons from entering the area by surrounding the SPP area with a wire fence and periodic control and maintenance of the fence • Conducting security checks	Bağyurdu OIZ	Equities (Included in operation costs)	Wire Fence Warning Signs Security Control Records

		• Laying of grounding channel around the project area • Hanging warning signs			
5	**Pollution Prevention-ESS3** Soil pollution due to waste from maintenance and repair of the Fast Charging station	• Maintenance and repair operations will be performed by authorized persons • Wastes generated during maintenance and repair will be sent to the OIZ waste site without leaving them at the station (Use of the temporary waste storage area within the OIZ)	Bağyurdu OIZ	Equities (Included in operation costs)	Maintenance and repair records
6	**Stakeholder Engagement-ESS10** Failure to monitor the social impacts of the project due to lack of communication with stakeholders and employees	• Keeping the grievance mechanism open • Review of complaint records and evaluation of complaints • Providing feedback	Bağyurdu OIZ	Equities (Included in operation costs)	Grievance Mechanism Records related to complaints (number and nature of complaints, and percentage resolved within appropriate time)
7	**ESMP-ESS1** Loss of license due to legal non-compliance, project stoppage	• Establishing a system for monitoring legal compliance • Identify responsible staff for follow up of permits that need to be repeated periodically	Bağyurdu OIZ	Equities (Included in operation costs)	Procedure for Monitoring Legal Compliance Legal Permissions
No	**Description of Potential Impact**	**Mitigation Measures**	**Responsibility**	**Cost**	**Performance Indicator**
		OPERATION PHASE			
8	**Labor and Working Conditions-ESS2** Occupational accidents due to non-application of OHS measures during electricity generation, maintenance-repair and cleaning phases	• Conducting orientation, induction and hazard class trainings within the scope of the regulation on the procedures and principles of occupational health and safety training of employees • Provision of appropriate personal protective equipment • Keeping OHS records • Preparation and implementation of OHS Plan (including work procedures, checklists and daily record forms) based on site specific risk assessment • Ensuring compliance with applicable national OHS legislation through regularly completed checklists, audit forms and follow-up records	Bağyurdu OIZ	Equities (Included in operation costs)	OHS Training Records Protective Equipment Records Number of accidents, incidents and near misses Number and type of noncompliance observed OHS Plan
9	**Labor and Working Conditions-ESS2** Negative environmental and social impacts due to unforeseen emergencies	• Preparation and implementation of Emergency Preparedness and Response Plan • Training of employees on emergency situations • Establishing emergency teams • Providing training on Dangerous Goods Signs • Conducting emergency drills according to the emergency scenarios	Bağyurdu OIZ	Equities (Included in operation costs)	Emergency Plan Training registrations Drill recordings

10	**Community Health and Safety-ESS4** Access from outside and accidents that may occur due to lack of security of the project area	• Access to the SPP Area will be blocked with a wire fence and the Fast Charging Station area with a security strip • Warning signs will be hung. • Hanging of warning signs regarding the speed limit on the Project Area road within the OIZ	Bağyurdu OIZ	No additional cost	Wire Fence and Security Strip Warning Signs
11	**Community Health and Safety-ESS4** Traffic at the Electric Vehicle Fast Charging Station	• Placing the charging station so as not to obstruct traffic • Providing traffic markings •	Bağyurdu OIZ	No additional cost	Traffic Signs Entry-exit separation

8. MONITORING PLAN

Monitoring plan for the preparation, construction and operation phases is presented in Table 43.

Table 43 Environmental and Social Impacts Monitoring Plan

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
1	**Preparation Phase**	**ESMP-ESS1** Permits/approvals/certifications/official letters	Bagyurdu OSB OIZ Office	The Supervision Consultant reviews and checks permits/approvals/certifications/official correspondence received	Before construction starts	To ensure that documents are available and valid	Supervision Consultant Bağyurdu OIZ	Supervision cost includes Equities
2	**Preparation Phase**	**Stakeholder Engagement-ESS10** Establishing and maintaining the functionality of the Stakeholder Grievance Mechanism	Bağyurdu OIZ Office	Bagyurdu OIZ web page, mobile phone,	Before construction starts and during the project	To ensure stakeholders' participation in the project process	Bağyurdu OIZ	Equities
3	**Preparation and Construction Phases**	**Labor and Working Conditions-ESS2** Appointment and employment records of the Contractor's EHSS Officer / Team	Contractor office	Review of the assignment and employment records of the EHSS Officer / Team	Before construction starts and every three months	To make sure they are assigned and retained during the construction works	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes
4	**Preparation and Construction Phases**	**ESMP-ESS1** ESMP, Management Plans and Procedures	Contractor and Bağyurdu OIZ office	The Contractor reviews the ESMP Review of the Management Plans and Procedures developed by the Contractor	Once a month Before the start of construction and quarterly if there will be any revisions	To make sure they are available and up to date	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
5	**Construction Phase**	**Labor and Working Conditions-ESS2** Emergency records	Contractor Office	The contractor reviews the emergency reports. Bagyurdu OIZ and Supervision Consultant review and check the urgent	Immediately after the accident/incident and in the first	To make sure reports are available	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities

				information process and contractor's reports	week of each month during construction			Supervision cost includes

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
6	**Construction Phase**	**ESMP-ESS1** Monthly monitoring reports	Contractor, Consultant and Bağyurdu OIZ office	Bağyurdu OIZ and the Supervision Consultant review and check the monthly progress reports prepared by the construction contractor.	In the first week of each month during construction	To ensure that reports are available and adequately prepared	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost
7	**Construction Phase**	**Stakeholder Engagement-ESS10** Number of posters hung Number of verbal briefings Number of stakeholder engagement activities carried out Number of announcements made on the Bağyurdu OIZ website **Number of grievances received and resolved within stipulated time**	Construction area Contractor Office Bağyurdu OIZ website	The contractor records the parameters and archives the materials a copy as evidence. Bagyurdu OIZ and Supervision Consultant; ○ Examines the posters hung by the contractor in the area of the construction to be started. ○ Examines whether verbal notifications have been made by the contractor regarding the interruption of access. ○ Examines whether records of stakeholder engagement are kept by the contractor. Supervision Consultant examines the website for announcements under the responsibility of Bağyurdu OIZ	Once a month	To ensure that records are available and information on the construction plan and any access disruption due to construction is publicized	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

8	**Construction Phase**	**Pollution Prevention-ESS3** Number of water spray vehicles Total km/day of water spray vehicles Dust suppression implementations	Construction sites	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and Supervision Consultant review the record and check that construction sites are frequently sprayed with water against dust	In the first week of each month during the construction phase Daily visual inspection	To ensure that water sprays are carried out against dust formation caused by the vehicle used	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Supervision cost includes Equities

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
9	**Construction Phase**	**Labor and Working Conditions-ESS2** Contractor's Workforce Management Procedure Number of labor contracts Number of personnel records Number of employees Number of records for payment of fees	Contractor Office	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and the Supervision Consultant check the following: ○ Contractor's Labor Management Procedure ○ Workforce Management Procedure ○ Implementation ○ Labor Contracts ○ Personnel records ○ Employee database ○ Records of fee payments	In the first week of each month during construction	To ensure that records are available. To ensure that the Contractor's employment records are available and compliant	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
10	**Construction Phase**	**Stakeholder EngagementESS10** Number and nature of complaints received Number of corrective actions implemented Number of open complaints	Contractor Office	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and the Supervision Consultant examine the following:	Conducting inspections during the construction phase in the first week of each month	To ensure that records are available. To ensure that complaints are lodged and	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Number of employees trained on grievance mechanism		○ Complaint logs with response details, nature of complaint, timing and corrective actions ○ Training records and training realization log	During the construction phase in the first week of each month	resolved in a satisfactory manner within stipulated time frame		
11	**Construction Phase**	**Pollution Prevention-ESS3 and Community Health and Safety-ESS4** Number of reports on the condition of the houses Number of complaints received during driving of panel legs	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. Vibration measurement is carried out by the contractor upon any complaint made. Bagyurdu OIZ and Supervision Consultant visually check near settlements (sensitive receptors) for vibration-induced effects.	Continuous/Daily Upon complaint Before and after panel foot nailing	To ensure that records are available. To ensure that the vibration does not adversely affect the community's property	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
12	**Construction Phase**	**Occupational Health and Safety-ESS2** Number of personnel receiving OHS training Number of accident and near misses and accident investigation reports Number of corrective/preventive actions Number of recorded non-conformities/ non-compliances	Contractor Office	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and the Supervision Consultant will ensure that the following are checked to ensure that documents are available and ready for review, whether they are logically completed and understandable or carefully recorded: ○ OHS Plan	In the first week of each month during construction	To ensure that records are available. To ensure that the Contractor's OHS records are available and compliant	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Number of checklists/audit forms Number of risk assessments Number of deliveries of procedures to suppliers		○ Training records and training realization log ○ Accident and near miss records ○ Accident/Incident investigation Reports including root cause analysis and identified actions ○ Accident/Incident Records with corrective/preventive actions ○ Non-Compliance/Non-Compliance Records ○ Records of checklists and inspection forms and follow-up records ○ Corrective/preventive action records ○ Risk assessment records ○ Records of demonstrations of procedures to suppliers ○ Records on the performance of subcontractors and primary suppliers on OHS				

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
13	**Construction Phase**	**Occupational Health and Safety -ESS2** Number of warning lights Number of occupational safety meetings/toolbox talks Number of checklists for fire fighting equipment Number of personnel trained in fire fighting	Construction area Contractor Office	The contractor records the parameters and archives a copy as evidence. The Bagyurdu OIZ and Supervision Consultant visually inspects the construction site for OHS implementations and check the followings:	In the first week of each month during the construction phase Continuous/Daily visual inspection	To ensure that the Contractor's OHS records are available and compliant. To ensure safety barriers and lighting are provided.	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Number of personnel assigned to Emergency Response Team Number of periodic control forms Number of daily control forms Number of staff trained on diseases, including COVID-19 measures Number of personnel infected with COVID-19 Number of personnel with first aid certificate Number of PPE records provided Number of incident reports OHS implementations		○ Visual controls of the provision of safety barriers and warning lighting. ○ Attendance lists of occupational safety meetings indicating the relevant topic related to occupational safety ○ Monthly checklist of firefighting equipment showing which team is using the equipment ○ Records of fire fighting trainings ○ Assignment records of the fire-fighting team ○ Signed periodic control forms ○ Signed daily control forms ○ Training records on diseases and COVID-19 measures ○ First aid certificates ○ Records of deployment of first aid teams ○ Approved records of PPE provision ○ Training records and training log		To ensure OHS implementations are compliant with project requirements.		

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
14	**Construction Phase**	**Pollution Prevention-ESS3** Number of complaints regarding dust emissions Exhaust emission control documents Number of periodic maintenance records Number of trainings on air pollution management Number of corrective/preventive actions implemented in response to complaints	Construction sites In the area subject to the complaint	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and the Supervision Consultant visually monitor dust formation. Bagyurdu OIZ and the Supervision Consultant examine the following; ○ Exhaust emission inspection records of each vehicle ○ Periodic maintenance records of all vehicles and machines ○ Number of trainings on air pollution management for employees Upon complaint, PM10 and settled dust measurements	In the first week of each month during the construction phase Continuous visual inspection Upon complaint	To ensure that records are available. To ensure that dust emissions do not have a negative impact on society and the environment	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

				will be carried out by the contractor.				
15	**Construction Phase**	**Community Health and Safety and Traffic Safety ESS4** Number of signs placed Number of lighting systems in work areas Number of safety barriers in work areas Number of transportation work schedules prepared Number of emergency drills Number of staff trained on community health and safety, including COVID-19 measures Number of activities carried out to provide information to the public Number of personnel infected with COVID-19	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and Supervision Consultant visually check traffic plans, signage, safety barriers, lighting, transportation schedule and the availability of pedestrian paths, sidewalks and bus stops in the work area. Bagyurdu OIZ and the Supervision Consultant examine the following: o Emergency drill reports o Training records and training log o Evidence of information made available to the public	In the first week of each month during the construction phase Continuous visual inspection	To ensure that records are available. To ensure that community health and safety is not adversely affected by project works.	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
16	**Construction Phase**	**Pollution Prevention- ESS3** Number of trained and appointed mechanics Number of work equipment and vehicles Number of maintenance and repair records Number of secondary collection containers provided to the repair team		The contractor records the parameters and archives a copy as evidence. The Bagyurdu OIZ and Supervision Consultant visually check the provision of secondary collection containers for machine oil and waste oil during maintenance and repair. Bagyurdu OIZ and Supervision Consultant cross-check whether the mechanics encountered are on the mechanic list and examine the following: ○ List of work equipment and tools ○ Mechanic list ○ Maintenance and repair records and related list	In the first week of each month during the construction phase Continuous visual inspection	To ensure that records are available. To manage maintenance and repairs in a way that does not cause any harm to the environment and society	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
17	**Construction Phase**	**Pollution Prevention - SS3** Number of waste containers in the work area for non-hazardous waste Number of personnel trained on waste management Number of delivery records of household	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and Supervision Consultant visually control the use of separate waste containers in the area and waste management practices implemented.	In the first week of each month during the construction phase Continuous visual inspection	To ensure that records are available. To manage household and recyclable waste in a way that does not cause any harm to the	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		and recyclable waste by waste type Waste management practices		Bagyurdu OIZ and Supervision Consultant examine the following: ○ Training records and training log ○ Delivery records of household and recyclable waste		environment and society.		

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
18	**Construction Phase**	**Pollution Prevention - SS3** Number of temporary hazardous waste storage areas Number of secondary collection containers used for hazardous waste storage Number of waste containers for hazardous waste in landfill Number of waste containers for hazardous waste in work areas Number of fire extinguishers in the storage area Number of personnel trained on hazardous substance management	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. The Bagyurdu OIZ and Supervision Consultant visually check the temporary hazardous waste storage area, secondary collection container, separate waste containers and their labeling in the area, warning signs, labels, fire extinguishers, and ensure that waste is not mixed, that there are secondary collection containers in the work areas, that there is not any hazardous waste in the work area at the end of the working day.	In the first week of each month during the construction phase Continuous visual inspection	To ensure that records are available. To manage hazardous waste, and waste oil in a way that does not cause any harm to the environment and society.	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Number of personnel assigned for hazardous waste management Number of records on hazardous waste disposal Number of waste oil recycling forms Hazardous waste management practices		Bagyurdu OIZ and the Supervision Consultant examine the following: Training records of staff on duty ○ Records of waste management training and training log ○ Hazardous waste records of hazardous wastes taken to hazardous waste storage area ○ Records of disposal of hazardous waste in licensed facilities ○ Waste oil recycling form received from the recycling facility				

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
19	**Construction Phase**	**Pollution Prevention-ESS3 and Community Health and Safety-ESS4** Number of project vehicles violating the speed limit Number of work equipment and vehicles Number of complaints about noise	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and the Supervision Consultant monitor the contractor's working hours and compliance with speed limits for project vehicles.	In the first week of each month during the construction phase Continuous visual inspection Upon complaint	To ensure that records are available. To ensure that noise generated do not have a negative impact on society and the environment	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Number of open complaints about noise Number of noise measurements performed Number of trainings on noise management		Bagyurdu OIZ and Supervision Consultant review the list of work equipment and tools. Noise measurement is carried out by the contractor upon any complaint made.				
20	**Construction Phase**	**Community Health and Safety-ESS4** Number of staff trained on code of conduct for community members Number of complaints received from local communities about workers' behavior	Construction sites Contractor offices	The contractor records the parameters and archives a copy as evidence. Bagyurdu OIZ and Supervision Consultant visually control workers' behavior towards community members. Bagyurdu OIZ and Supervision Consultant review training records, training log and complaint records.	In the first week of each month during the construction phase Continuous visual inspection	To ensure that records are available. To ensure that community health and safety is not adversely affected by project works.	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
No	**Phase**	**What parameter is to be monitored**	**Where is the parameter to be monitored**	**How is the parameter to be monitored// Type of monitoring equipment**	**When is the parameter to be monitored – frequency of measurement or continuous**	**Why is the parameter to be monitored**	**Corporate Responsibility**	**Financing Cost / Source**
21	**Construction Phase**	**Stakeholder Engagement -SS10** Number of stakeholder	Bağyurdu OIZ	The contractor records the parameters and	In the first week of each month during the construction phase	To ensure that records are available.	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities

		engagement activities Number of activities to explain the grievance mechanism Number and nature of complaints received Number of corrective actions implemented Number of open complaints		archives a copy as evidence. Bagyurdu OIZ and Supervision Consultant visually check whether a community information system (signage, verbal information etc.) is in place before work starts. Bagyurdu OIZ and Supervision Consultant examine the following: o Announcement of the grievance mechanism o Number and nature of grievances, including responsive action, timing and corrective actions o Records o Stakeholder engagement records o Public disclosure of SEP and ESMP	Continuous visual inspection Carrying out inspections in the first week of every month during the construction phase	To ensure effective and robust stakeholder engagement and information during the construction phase.		Supervision cost includes
22	**Construction Phase**	**Pollution Prevention-ESS3** Number of dangerous	Construction sites	On-site inspection/Visual observation (In case of use of dangerous	Continuous/Daily	No adverse effects on human and environmental health	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		substances and chemicals used		substances and chemicals, safety data sheets are prepared in Turkish. The rules specified in the safety data sheets are followed. Hazardous materials and chemicals are not stored in the construction area)		originating from dangerous substances and chemicals		
23	**Construction Phase**	**Cultural Heritage-ESS8** Chance find	Construction sites	On-site inspection/Visual observation	Continuous/Daily	No loss of cultural heritage	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
24	**Construction Phase**	**Biodiversity Conservation and Sustainable Management of Living Natural Resources-ESS6** Encounter with *Testudo graeca*	Construction sites	On-site inspection/Visual observation	Continuous/Daily	No loss of biodiversity	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes
25	**Construction Phase**	**Assessment and Management of Environmental and Social Risks and Impacts - ESS1** Resorce efficiency and Pollution Prevention and Management-ESS3 **WBG General EHS Guidelines: Wastewater and**	Construction sites and water resources OIZ facilities and domestic wastewater generated within the body of Bağyurdu	On-site inspection/Visual observation Documentation check (proving that the workers use OIZ facilities for restrooms and domestic wastes) Sewer connection Permit (wastewater produced in Bağyurdu OIZ is sent to Kemalpaşa OIZ	Continuous/Daily visual observation, In case of any complaint surface water and groundwater samplings will be performed	To conserve existing surface water and groundwater quality To prevent discharging of wastewater to water resources	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

		Ambient Water Quality **Environmental Law** -Decrease in surface water quality (Nif Stream) -Decrease in groundwater quality or level	OIZ is sent to Kemalpaşa OIZ central wastewater treatment plant	central wastewater treatment plant)				
26	**Construction Phase**	**Assessment and Management of Environmental and Social Risks and Impacts - ESS1** **Pollution Prevention-ESS3** **Environmental Law** -Decrease in soil quality -Accident number of oil and fuels leakages/spills	Construction sites and storage areas (if required)	On-site inspection/Visual observation, İncident registry, Soil sampling and analyzing if needed	Continuous/Daily visual observation, Monthly incident register, In case of any complaint soil sampling will be performed	To prevent soil contamination	Contractor Bağyurdu OIZ Supervision Consultant	Construction cost includes Equities Supervision cost includes

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
27	**Operation Phase**	**Occupational Health and Safety**	Bağyurdu OIZ	Bagyurdu OIZ visually checks whether	Visual inspection when necessary	To ensure that safety barriers	Bağyurdu OIZ	Equities

		and Labor and Working Conditions-ESS2 Number of warning lights Number of occupational safety meetings Number of checklists for fire fighting equipment Number of personnel trained in emergency situations Number of personnel assigned to the fire fighting team Number of periodic control forms Number of daily control forms Number of personnel with first aid certificate Number of PPE records provided		safety barriers and warning lighting are placed around the repair area as a precautionary measure. Bagyurdu OIZ examines the following: ○ Attendance lists of occupational safety meetings indicating the relevant topic related to occupational safety ○ Checklist of firefighting equipment indicating which repair team is using the equipment used ○ Records of emergency trainings ○ Assignment records of fire-fighting officers ○ Signed periodic control forms ○ Signed daily control forms ○ First aid certificates ○ Records of deployment of first aid teams	Quarterly review during the repayment period	and lighting OHS records are available and compliant.		

				○ Approved records of PPE provision ○ Records related to cleaning, maintenance and repair				
28	**Operation Phase**	**Occupational Health and Safety and Employment Conditions-ESS2** Number of personnel receiving OHS training Number of staff trained on diseases, including COVID-19 measures Number of risk assessments Number of accident/incident forms Number of checklists/audit forms Number of personnel infected with COVID-19	Bağyurdu OIZ	Bagyurdu OIZ controls and inspects the following: ○ OHS Plan ○ Risk Assessment report ○ Emergency Preparedness and Response Plan ○ Training records and training realization log ○ Accident/incident forms Records of checklists and inspection forms and follow-up records	Quarterly during the repayment period	To ensure that the Bağyurdu OIZ 's OHS records, plans an d procedures are available and compliant	Bağyurdu OIZ	Equities

29	**Operation Phase**	**Labor and Working Conditions-LSS2** Number of designated assembly points	Bağyurdu OIZ	Bagyurdu OSB examines the following: ○ Emergency Preparedness and Response Plan ○ Assignment documents of Emergency Response Team members ○ Training records of emergency response team members ○ Records of trainings provided to employees ○ Current Emergency Information Form	Quarterly during the repayment period	To ensure that emergency safeguards are in place and compliant.	Bağyurdu OIZ	Equities

No	Phase	What parameter is to be monitored	Where is the parameter to be monitored	How is the parameter to be monitored// Type of monitoring equipment	When is the parameter to be monitored – frequency of measurement or continuous	Why is the parameter to be monitored	Corporate Responsibility	Financing Cost / Source
30	**Operation Phase**	**Stakeholder Engagement -SS10** Number and nature of complaints received Number of corrective actions implemented	Bağyurdu OIZ	Bagyurdu OIZ examines the following: ○ Complaint logs with response details, timing and corrective actions	During the repayment period Once a month	Ensure that complaints are logged and grievance mechanism trainings are conducted.	Bağyurdu OIZ	Equities

		Number of open complaints Number of employees trained on grievance mechanism Response time for complants		○ Training records and training realization log				
31	**Operation Phase**	**Pollution Prevention-ESS3** Number of maintenance, repair, cleaning and emergency response procedures Number of personnel assigned for water quality control and management Number of personnel trained on water quality control and waste management Number of personnel assigned for waste management	Bağyurdu OIZ	Bagyurdu OIZ examines the following: ○ Water registration documents to be used in panel cleaning ○ Maintenance procedures ○ Emergency response procedures ○ Appointment document of authorized personnel ○ Training records ○ Hazardous waste records of hazardous wastes taken to hazardous waste storage area ○ It keeps records of all wastes taken to the Temporary Waste Storage Area.(Packaging, metal, wood, etc.) ○ Records of disposal of hazardous waste in licensed facilities ○ Records of recycling of waste at licensed facilities	Visual inspection when necessary Quarterly review during the repayment period	To ensure that pure water is used for panel cleaning and that no unnecessary water is used To manage all type of waste in a way that does not cause any harm to the environment and society.	Bağyurdu OIZ	Equities

32	**Operation Phase**	**Community Health-ESS4** Number of signs placed Number of lighting systems in work areas Number of safety barriers in work areas Number of emergency drills Number of staff trained on community health and safety, including COVID-19 measures Number of activities carried out to provide information to the public	Bağyurdu OIZ	Bagyurdu OIZ visually checks signage, safety barriers, lighting and the transportation schedule in the work area and the presence of pedestrian paths, sidewalks and bus stops in the repair areas. Bagyurdu OIZ examines the following: ○ Training records and training log ○ Emergency drill reports ○ Evidence of information made available to the public	Visual inspection when necessary Quarterly review during the repayment period	To ensure that community health and safety is not adversely affected by project works.	Bağyurdu OIZ	Equities

9. STAKEHOLDER MANAGEMENT UNDER ESMP

A stakeholder is defined as any individual, organization or group that may be affected by the project or has an interest in the project and its impacts. The purpose of stakeholder identification is to determine which stakeholders will be directly or indirectly - positively or negatively - affected ("affected parties") or have an interest in the project ("other interested parties").

It is important that special efforts are made to identify disadvantaged and vulnerable stakeholders who may be differently or disproportionately affected by the project, or who may find it difficult to participate in the engagement and development process. Stakeholder identification is an ongoing process and will require regular review and updating. The Stakeholder Engagement Plan (SEP) has been prepared for this project to identify project stakeholders and determine the methods of engagement for the future of the project. More detailed information is provided in the SEP.

Stakeholder engagement activities will be under the responsibility of a staff member from the Public Relations Unit who will be assigned by the Bağyurdu OIZ to implement the SEP, or a specially appointed person with the necessary qualifications to fulfil the task. The ultimate responsibility for the implementation of this SEP rests with the Bağyurdu OIZ. During the construction and operation phases, the Bağyurdu OIZ will keep the following information up to date and accessible, informing about Project developments and implementation.

- Key Project phases and schedules (e.g. obtaining permits, commencement of construction or operation activities, construction programme, etc.),
- Any Project-related disruptions (e.g. road closures, access and infrastructure disruptions),
- Significant consultations/meetings that may have consequences that may affect the community and local people,
- Environmental, health and safety performance (e.g. information on accidents, monitoring results).

The Table 44 presents the stakeholders those have been identified for the subproject.

Table 44 Stakeholder Groups

Stakeholder Groups	Stakeholder Type			
	Type of Impact	Cause of Impact/interest	Affected Party	Interested Party
Internal Stakeholders				
• Bağyurdu OIZ Personnel • Contractors and Employees	Direct Exposure	Project Development, Implementation and Employment	√	
Government / Authorities				
• Ministry of Energy and Natural Resources • District Governorate of Kemalpaşa • Provincial Governorate of İzmir • İzmir Provincial Directorate of Environment, Urbanization and Climate Change • İzmir Chamber of Commerce and Industry • Kemalpaşa District Directorate of Health • Ministry of Industry and Technology • Provincial Directorate of National Education	Indirect Exposure	Relation of the Project with Healthcare, Environmental and Social institutions during construction and operational phases		√

Stakeholder Groups	Stakeholder Type			
	Type of Impact	Cause of Impact/interest	Affected Party	Interested Party
• Organized Industrial Zones Supreme Organization (OSBÜK)				
Municipalities				
• Kemalpaşa Municipality • İzmir Metropolitan Municipality	Direct Exposure	Project Development, Implementation and Employment		√
Neighborhood				
• Çepnidere village • Sancaklıbozköy village • Sancaklıığdecik village	Direct Exposure	Commissioning, Potential noise and dust emission during the construction phase	√	√
Businesses				
• Businesses operating in Bağyurdu OIZ	Direct Exposure	Commissioning, Potential noise and dust emission during the construction phase	√	
Vulnerable/Disadvantaged Individuals or Groups				
• Refugee population working for the businesses in Bağyurdu OIZs • Physically or mentally disabled individuals • Individuals with chronic illness or are bedridden • Female headed households • Poor people who live on state or association aid	Direct Exposure	Commissioning, Potential noise and dust emission during the construction phase	√	

9.1 Stakeholder Engagement Activities

Stakeholder engagement is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's environmental and social impacts. The purpose of stakeholder engagement is to establish and maintain a constructive relationship with a variety of external stakeholders over the entire life of the project. Initiating the engagement process in the early phases of the project helps ensure timely public access to all relevant information and provides the stakeholders with an opportunity to input into the project design and the assessment of impacts.

The Stakeholder Engagement Plan identifies the project stakeholders and provides a roadmap for stakeholder engagement of the project and contributes to the execution of the project in a transparent, inclusive, harmonious and helpful manner for the achievement of the project's purpose and execution. The Stakeholder Engagement Plan presents the potential and actual impacts of the project and records the concerns of its stakeholders about the project, and provides effective solutions and responses to these impacts and concerns.

Bağyurdu OIZ will be responsible for stakeholder engagement in the Project as an ongoing process throughout the life of the Project. In this context, first round of consultations was held on 25.11.2022 at the Bağyurdu OIZ Directorate building. Participants of the meeting, consisting of village headmen, representatives and employees of the businesses in the OIZ were informed about the objectives and scope of the project, its potential environmental and social impacts/risks, mitigation measures identified in this ESMP and to be implemented throughout the project, roles and responsibilities of each party involved in the project and the grievance mechanism (Figure 53). In addition to the information shared with the participants, during the Question and Answer (Q&A) session questions and suggestion of the participants were also received and responded.

Figure 53: Stakeholder Briefing meeting

The second round of consultations was held on January 25, 2023 with the participation of stakeholders. During the meeting, WB E&S standards (ESS) that the sub-project committed to comply with and the E&S Management Plans that are being prepared were presented, and opinions and suggestions of the stakeholders about the Project were received. The meeting was announced with through the advertisements posted in the neighboring settlements and local newspapers. The participant list of the

meeting, minutes of meeting, meeting announcements and photos from the meeting are provided in Annex 11, 12, 13 and 14, respectively.

9.2 Grievance Mechanism

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

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

Having an effective GM in place will also serve the objectives of: reducing conflicts and risks such as external interference, corruption or mismanagement; improving the quality of project activities and results; and serving as an important feedback and learning mechanism for project management regarding the strengths and weaknesses of project procedures and implementation processes.

The GMs will be accessible to a broad range of Project stakeholders who are likely to be affected directly or indirectly by the project.

The grievances that may occur during the project will be addressed at four levels: (i) OIZ level, (ii) contractor level (to receive grievances from sub-contractors and their workers), (iii) Ministerial Level, and (iv) national level.

The grievances will be acknowledged by the PMU assigned by Bağyurdu OIZ and timeframe for the provision of response or for further consideration will mainly depend on the complexity of the issue raised, however, ideally, it is expected to not exceed 15 days after receiving the grievance.

The methods used to publicize the availability of the grievance mechanism should be culturally appropriate and in accordance with how stakeholders usually acquire information. Women and men may access information differently and it needs to be ensured that both have equal access to information. Stakeholders will be able to share their opinions and grievances via a range of options such as letters, e-mail, grievance boxes, and face to face meetings throughout the Project's lifespan.

All stakeholders initiating a grievance will have an opportunity to claim their case in a confidential manner Bağyurdu OIZ will ensure that the name and contact details of the complainant are not disclosed without their consent.

GM in MoIT and National Level

Per the World Bank's ESS10 requirement, a proper grievance mechanism (GM) will be established and operated for the Project. For this mechanism to function in a proper and timely manner, a GM focal point who will oversee the entire process will be assigned as a part of the project team of the MoIT. S/he will also be responsible for reporting the grievance redress process of the project for monitoring purposes. This person will also be responsible to coordinate the grievance mechanism to ensure its smooth functioning within the scope of the project. A Communication and Stakeholder Specialist will be assigned for this project in the MoIT to coordinate SEP activities and the inquiries regarding the loan projects. S/he will be the focal point for communication in the Project. The specialist will also be responsible to suggest and execute proper engagement methods in line with the improvements, if the covid epidemic peaks again.

MoIT receives formal requests and grievances through the Presidential Communication Center (CIMER). Other than CIMER, MoIT can receive formal grievances either as official petitions or through its online web channels. In accordance with the requirements of the World Bank, an expert will be assigned to function as the GM focal point of the project, who will receive grievances regarding the project through all available GMs. The GM will also allow submission of anonymous grievances through CIMER.

Additionally, requests, grievances and suggestions can be sent to Department of Personnel (for MoIT) either inner writing system or paper-based petitions for project workers, who are staff of MoIT. Requests, grievances and suggestions received in this way are evaluated in every 20 business days. The evaluation results are listed internally on the grievance system and can be accessed by employees through their own intranet. The grievances which are relevant to this Project, received through this system will also be reported to GM focal point.

All stakeholders can submit individual applications to the MoIT grievance mechanism established specifically for the Project or to CIMER at national level:

Ministry level grievance mechanism:

- Website (www.sanayi.gov.tr)
- Telephone: 444 62 78, +90 312 201 50 50 00
- E-mail: info@sanayi.gov.tr, dboneri@sanayi.gov.tr
- Mailing Address: Mustafa Kemal Mahallesi Dumlupınar Bulvarı (Eskişehir Yolu 7.km) 2151. Cadde No:154/A 06530 Çankaya/ANKARA

Presidency's Communication Center (CIMER) is the national level grievance mechanism and serves as the official state tool to receive requests, complaints, compliments and inquiries for information from the public:

- CIMER Website (www.cimer.gov.tr)
- CIMER Call Center (150)
- CIMER Phone Number: +90 312 525 55 55 - Fax Number: +90 0312 473 64 94
- Mail addressed to Republic of Turkey, Directorate of Communications
- Individual applications at the community relations desks at governorates, ministries and district governorates

In addition to CİMER, there is also the Foreigners Communication Center (YIMER) which provides a centralized complaint system for foreigners.

- YIMER Website (www.yimer.gov.tr)
- YIMER Call Center (157)
- YIMER Phone Number: +90 312 5157 11 22- Fax Number: +90 0312 920 06 09
- Mail addressed to Republic of Turkey, Directorate of Communications

GM of Bağyurdu OIZ

Project Management Unit (PMU) in Bağyurdu OIZ will be responsible for overall management and supervision of the project including compliance with SEP requirements as well as managing grievances. OIZ has its own grievance mechanisms in place which allows its employees, contractors and stakeholders to raise workplace related concerns and grievances. For this purpose, there are "Complaint, Request and Suggestion Boxes" in various parts in buildings. Additionally, requests, grievances and suggestions can be received by the OIZ through paper-based petitions. Any request,

suggestion or grievances can be sent to the Bağyurdu OIZ via 'Communication Form' section of the web site.

Figure 54: Complaint, Request and Suggestion Boxes

Complaints, requests and suggestions within the scope of Bağyurdu OIZ 1.6 MWe Solar Power Plant Project will be conveyed through the following communication channels:

- Address: Bağyurdu Organize Sanayi Bölgesi İzmir- Ankara Caddesi No:5 Kemalpaşa /İZMİR
- GM focal point:ZERNİŞAN ÖZTÜRK
- Phone: 0530 782 69 08
- E-mail: info@Bağyurdu OIZ.org
- Web: https://www.Bağyurdu OIZ.org/
- Online communication form: https://www.Bağyurdu OIZ.org/iletisim.html

Complaints coming from these channels will be recorded in the Complaint Receiving Form (see Appendix 13) in the same day. The complaint recorded on the form will be recorded to the GM system within three days and the resolution process will begin. The complaint will be forwarded to the relevant unit for a solution within 15 days from the date it was first received. The time taken for resolution of the complaint and feedback will not exceed 30 days.

There is no settlement closer than 5 km to the Project. Four surrounding settlements more than 5 km away are included in this SEP as OIPs. The following information will be provided by the PIU to the representatives (muhtars, directors) of these settlements:

- The project has a grievance mechanism,
- Complaints will be recorded and resolved within 30 days,
- Management of grievances will be monitored by MoIT,
- Information about complaint channels,
- Request for referral of grievances from local communities.

GM for Workers

The PMU expects contractors to develop and implement a grievance mechanism for the labour force, including subcontractors, prior to the commencement of works. Construction contractors will prepare Labour Management Plans, including a detailed description of the workers' grievance mechanism, before the start of construction works.

The workers' grievance mechanism will include:

- A procedure for receiving grievances such as comment/complaint form, suggestion boxes, e-mail, telephone hotline;
- Stipulated timeframes for responding to grievances and resolving cases;
- A log sheet to record and monitor the timely resolution of grievances; and
- A department responsible for receiving, logging, handling and following up the resolution of grievances.

The Supervision Consultant will monitor the contractors' logging and resolution of grievances and report them to the PMU in monthly progress reports. The process will be monitored by the focal point of the OIZs and the GM Focal Point in MoIT.

The workers' grievance mechanism will be explained in the induction training for all project staff. The mechanism will be based on the following principles:

The process will be transparent and allow employees to raise concerns and lodge grievances;

- There will be no discrimination against those who express grievances and any grievances will be treated confidentially;
- Anonymous grievances will be treated equally as other grievances, whose origin is known; and
- Management will treat grievances seriously and take timely and appropriate action in response.

The workers will be informed about the existence of the grievance mechanism will be readily available to all project workers (direct and contracted) through notice boards, the presence of "suggestion/complaint boxes", and other means as needed.

Within the scope of this project, Bağyurdu OSB will be responsible for appointing a focal point (CLO) responsible for receiving and resolving grievances. The CLO will be responsible for keeping a record of all requests, complaints and suggestions related to the project and forwarding them to the Regional Directorate and the Board of Directors. The Regional Directorate and the Board of Directors will be responsible for the timely resolution of grievances within 15 working days. The Focal Point of the OIZs will monitor and follow up the GM, as well as inform and report to the MoIT.

Although the risk from project activities and in Turkish context is low, grievance mechanism for workers shall include handling disclosures of sexual exploitation and abuse (SEA) and sexual harassment (SH). A SEA/SH referral pathway will be established and updated in line with existing procedures of the country. The GM that will be in place for the project workers will also be used for addressing SEA/SH-related issues and will have in place mechanisms for confidential reporting with safe and ethical documenting of SEA/SH issues.

The World Bank Grievance Redress Mechanism

Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns.

Project affected communities and individuals may submit their complaint to the Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's corporate Grievance Redress Service (GRS), please visit: http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Grievance Register

All incoming grievances will be reflected in a Grievance Log to assign an individual reference number.

The Grievance Log will also be used to track the status of a grievance, analyses the frequency of complaints arising, typical sources and causes of complaints, as well as to identify prevailing topics and any recurrent trends.

All complaints will be recorded in the respective Grievance Log with the following information:

- Grievance reference number,
- Date of the grievance,
- A location where the grievance was received and in what form (for grievance boxes),
- Complainant's contact details (in case of non-anonymous grievances)
- Content of the grievance,
- Parties responsible for addressing the issue,
- Dates when the investigation of the grievances initiated and completed,
- Results of the investigation,
- Information on the proposed corrective actions to be delivered to the complainant (in case of non-anonymous) and the date of the delivery,
- Deadlines for required actions by the personnel,
- Indication on whether the corrective action was satisfactory or a reason for non-resolution of the grievance,
- The of the close-out, and;
- Any outstanding actions for non-closed grievance cases.

Roles & Responsibilities

Responsibilities of the PMU of Bağyurdu OIZ about the implementation of the GM include but not limited to:

- Ensure the Grievance Mechanism complies fully with all employment legislation;
- Ensuring the Grievance Mechanism is reviewed on a regular basis as a result of changes to employment legislation and lessons learned from its operation;
- Communicate the Grievance Mechanism to all direct and indirect employees through means of communications structured for the Project
- Ensure the Grievance Mechanism is a dedicated topic during the new employee orientation;
- Provide confidential advice to employees on matters they are reluctant to discuss with their Supervisor
- Provide advice and support to Contractor supervisors and management on their roles and responsibilities for the successful implementation and operation of the Grievance Mechanism.
- Acceptance of issues from employees.
- Log of issues.

Grievance Procedure

Complaints should be reviewed as soon as possible in order to prioritize for resolution. Regardless of general response and resolution timeframes, some complaints may require immediate attention, for example, an urgent safety issue or where it concerns the livelihood of locals.

There are 10 steps that complete the grievance mechanism. This process has been detailed in the text below.

Step 1: Identification of grievance through personal communication with appropriately trained and advertised by PIU.

Step 2: Grievance is recorded in the 'Grievance Log' (paper and electronic) within one day of identification. The grievance log will managed by the assigned Project Manager. The significance of the grievance will then be assessed within five to seven days.

Significance Criteria is outlined in the list below.

Level 1 Complaint: A complaint that is isolated or 'one-off' (within a given reporting period - one year) and essentially local in nature.

Note: Some one-off complaints may be significant enough to be assessed as a Level 3 complaint e.g., when a national or international law is broken (see Level 3).

Level 2 Complaint: A complaint that is widespread and repeated (e.g., noise from the facilities, dust, etc.).

Level 3 Complaint: A one-off complaint, or one which is widespread and/or repeated that, in addition, has resulted in a serious breach of the Project's policies or National law and/or has led to negative national/international media attention, or is judged to have the potential to generate negative comment from the media or other key stakeholders (e.g., inadequate waste management).

In the case the complaint is assessed to be out of the scope of the Grievance Mechanism, a grievant should be notified through the desired communication method and an alternative mode of solutions should be suggested.

Step 3: Grievance is acknowledged through a personal meeting, phone call, grievance boxes or letter as appropriate, within a target of 15 working days after submission (except the complaints that require immediate attention). If the grievance is not well understood or if additional information is required, clarification will be sought from the complainant during this step.

Step 4: The Project Manager is notified of Level 1, 2 or 3 grievances Bağyurdu OIZ is notified of all Level 3 grievances. The senior management of Bağyurdu OIZ, as appropriate, supports the Project Manager in deciding who should deal with the grievance, and determines whether additional support for the response is necessary.

Step 5: The Project Manager delegates the grievance within five to seven days via e-mail to relevant department(s)/personnel to ensure an effective response is developed (e.g., human resource, relevant administrative departments etc.)

Step 6: A response is developed by the delegated team within 15 days in which may include Project Manager with input from senior management of related departments as necessary. The response should identify a suitable resolution to the grievance, in which could involve further information to clarify a situation, taking measures to mitigate problems or compensate for any damages that has been caused during the Project activities though financial compensation.

Step 7: The response is signed-off by the senior manager of related departments for level 3 grievances and the Project Manager for Level 2 and Level 1 grievances within 15 days. The sign-off may be a signature on the grievance log or an e-mail which indicates agreement, which should be filed by the Project Manager and referred to in the grievance log.

Step 8: Communication of the response should be carefully coordinated. The Project Manager ensures that an approach to communicating the response is agreed and implemented.

Step 9: Record the response of the complainant to help assess whether the grievance is closed or whether further action is needed. The Project Manager should use appropriate communication channels, most likely telephone or a face-to-face meetings, to confirm whether the complainant has understood and is satisfied with the response.

In case the complaint was made anonymously, a summary of the grievance and resolution should be posted on notice boards located around the Facility as well as within the Project affected villages and

Project Manager should contact the head of villages on the anonymous grievances and resolutions as well.

If possible, the complainant's response should be recorded in the Grievance Log including notes on the mitigation measures to prevent recurrence of the grievance in future.

In case the Project Manager or other managerial department are not able to address the particular issue raised through the grievance mechanism Project Manager will provide a detailed explanation/ justification on why the issue was not addressed. The response will also contain an explanation on how the person that raised the complaint can proceed with the grievance in case the outcome is not satisfactory.

Step 10: Close the grievance with a sign-off from the Project Manager. The Project Manager assesses whether a grievance can be closed or whether further attention is required. If further attention is required, the Project Manager should return to Step 2 to re-assess the grievance. Once the Project Manager has assessed whether the grievance can be closed, he/she will sign off or seek agreement from the related management departments for level 3 grievances, to approve closure of the grievance. The agreement may be a signature on the grievance log or an equivalent e-mail, which will be filed by the Project Manager and referred to in the grievance log.

Worker Grievance Mechanism is defined as the mechanism that receives complaints from Project employees (including both direct and indirect employees).

This mechanism is structured with an intention of it being an effective approach for early identification, assessment and resolution of grievances throughout the Project's lifespan. The Grievance Mechanism will guarantee that any employee raising a complaint will not be subject to any reprisal.

Workers' Grievance Mechanism can be summarized as but not limited to; any worker with a concern of pertaining to onsite work such as occupational health and safety, terms of employment, wages, issues with the local community or among co-workers, hygiene issues in the common areas, insufficient amount of food and / or concerns regarding the security of the workers.

The Grievance Mechanism will be informed to all Project workers through written and verbal communications. Each worker should be informed about the grievance mechanism at the time they are hired, and details about how it operates should be easily available, in employee handbooks for example.

Confidentiality is quite significant to some workers; therefore, workers can submit their complaint and remain anonymous. However, grievances lodged anonymously may prevent the Human Resources Specialist of Bağyurdu OIZ from resolving the matter and providing feedback. Nevertheless, Project workers wishing to lodge grievances anonymously should be allowed to do so. The Project Manager will open the complaint boxes located within the Facility every 5 days and will assess to determine whether the issue raised by the complaint fall within the scope of Worker Grievance Mechanism or not.

It is important to note that, Project employees will retain their right to access the public grievance mechanism for non-employment-related issues.

Complaints will be reviewed as soon as possible in order to prioritize for resolution. Regardless of general response and resolution timeframes, some complaints may require immediate attention, for example, where it concerns the livelihood of workers.

There are 5 steps that complete the Worker Grievance Mechanism. This process has been detailed in the text below.

Step 1: Identification of grievance will be done through personal communication with the Project Manager. This could be in person, by phone, letter, grievance boxes or email.

Step 2: Grievance is recorded in the 'Grievance Log'. Once the grievance is received and recorded, based on the subject and issue, the Project Manager shall identify the department, management or personnel responsible for resolving the grievance.

In the case the complaint is assessed to be out of the scope of the Project's Grievance Mechanism, a grievant should be notified through the desired communication method and an alternative mode of solutions should be suggested.

Step 3: Grievance Investigation. The Project Manager and related departments should then assess into the facts relating to the grievance. This should be aimed at establishing and analysing the cause of the grievance and identifying suitable mitigation measures. The analysis of the cause will involve assessing various aspects of the grievance such as the past history of the employee, frequency of the complaint occurrence, management practices, recent incidents, etc.

During the cases when needed, for the sake of the investigation, the Project Manager may also undertake confidential discussions with the concerned parties to develop a more detailed understanding of the issue at hand. In case of Site visit is required to gain first-hand understanding of the nature of the complaint, the visit will be also made to verify the validity and severity of the grievance.

The concern will be referred to the related managerial department who will discuss the concern with the employee and Area and/or Departmental Manager.

The investigation phase should be completed in no more than 5 working days of receiving the grievance.

10. ENVIRONMENTAL AND SOCIAL ROLES AND RESPONSIBILITIES

10.1. Roles and Responsibilities

The institutions and organizations that will be involved in the Project and will contribute to the management of environmental and social risks and impacts of the Project and their roles and responsibilities are specified below.

- World Bank
- Ministry of Industry and Technology
- Bağyurdu Organized Industrial Zone
- Contractor Company
- Consultant Company

Table 45 Duties and Responsibilities

CORPORATION	RESPONSIBILITIES
World Bank (WB)	• To fulfill the project implementation support role to ensure that the project is carried out in line with WB ESF • To disclose the ESMP on the World Bank's official external website
Ministry of Industry and Technology (MoIT)	• To support the OIZ in the selection of competent companies to be involved in the preparation of this ESMP • To perform an overall quality assurance function that the documents such as ESMP prepared meet the World Bank requirements • To ensure coordination with the World Bank • Determination of the Contractor Company • Determination of the rules to be followed by the Contractor Company • Provide OIZ staff/OIZ E&S consultants guidance on preparation of E&S assessment documents in accordance with the World Bank's requirements • Provide OIZ staff/OIZ E&S consultants guidance on the World Bank's E&S assessment standards and procedures, notably consultation and disclosure requirements for sub-projects • Provide OIZ staff/OIZ E&S consultants with guidance on the World Bank's ESSs and safeguard requirements (documentation and procedures) for cultural properties, natural/critical habitats, forests, and international waterways. • Ensure that sub-loan documentation includes agreements to implement the ESMF, ESCP, site specific safeguard documents and any other ESSs and safeguard requirements. • Perform supervision of OIZs' implementation of ESMF, RF, ESCP, site specific safeguard documents and any other ESSs and safeguard requirements, and document performance, recommendations and any further actions required as part of overall project supervision reporting to the World Bank. • Monitoring and auditing environmental and social issues at the sites (including OHS issues) through data collected from the site visits. • Prepare and submit quarterly compliance reports to the World Bank to document construction and compliance activities completed during the period and to track the resolution of any issues that may have occurred, for all sub-projects under implementation.

Bağyurdu OIZ Directorate	• Determination of the company to prepare the ESMP • Preparation of information and documents related to ESMP • To submit the ESMP to the Ministry of Industry and Technology • To follow the progress of the project and ensure ESMP and SEP are fully implemented on site. • To coordinate the conditions related to the Contractor company during the construction phase of the project • Monitoring whether the contractor acts in accordance with the rules determined during the construction phase • Organizing Stakeholder Engagement Meetings • To establish and operate the Grievance Mechanism where stakeholders can submit their complaints • Implement ESMP during the operation phase • Taking action and providing feedback on complaints received from stakeholders • Summarize environmental, social, health and safety issues related to project implementation in regular progress reports to the Ministry of Industry and Technology. • Reporting to the Ministry of Industry and Technology on implementation progress, results, potential problems and proposed solutions • Assign E&S, OHS and SE/GRM focal points for management of projects' E&S risks. • Review the Monthly Monitoring Report of the Consultant and the Contractor's Monthly Monitoring Report and incorporate these to its own monthly compliance report to be submitted to the Ministry of Industry and Trade • Prepare and submit monthly compliance reports to Ministry of Industry and Technology
Contractor	• Duly implement the ESMP on site, • Conduct the works in line with national laws and regulations and the World Bank ESSs • Updating the ESMP and conducting relevant disclosure and consultation procedures with the consultant when necessary • To implement the Chance Finds Procedure when necessary • Implementing Occupational Health and Safety (OHS) measures on site • To ensure that construction-related complaints are received and resolved • Ensuring the sustainability of the Grievance Mechanism • Monitoring the activities carried out in the field at regular intervals (daily, weekly, monthly, etc.) as specified in ESMPs • Submit "Monthly Monitoring Reports" to the Consultant • To train workers on environmental and social issues (including OHS) during the construction phase in accordance with the World Bank's Environmental and Social Standards and national regulations to raise environmental and social awareness • Assign environmental, social, OHS (at least one full-time) and SE/GRM focal points for projects' E&S risk management • Promptly notify the OIZ in case of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public and workers such as OHS accidents or that result in threatening community health and safety and the OIZ will immediately (not later than 48 hours) inform MoIT, and MoIT will inform the World Bank. In such cases, the OIZ will provide sufficient details regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervising entity/consultant, as appropriate. The OIZ will submit the incident report, including root cause analysis, precautions and compensation measures taken, to MoIT within 30 business days. MoIT will forward the incident report to the Bank immediately upon receipt from the OIZ.

Supervision Consultant	• Conducting a preliminary field assessment of the project • Submitting its own "Monthly Monitoring Report" to the OIZ as an annex to the Contractor's Monthly Monitoring Report • Reporting back to the Ministry of Industry and Technology • Preparation of completion reports of ESMPs for review by the Ministry of Industry and Technology. • Supervise and inspect the Contractor's activities (including the environmental, social and OHS issues) on site on a daily basis • Assign environmental, social and OHS (at least one full-time) experts that will inspect and supervise to Contractor's work on site • Make Contractor take necessary actions to eliminate/minimize environmental and social impacts in line with ESMP and conduct monitoring activities as specified in the ESMP

When MoIT notices any problems in ESMP or SEP implementation, it will inform the OIZ and agree with them on steps to rectify these problems. Specifically, for any incident or accident related to the project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public and workers such as OHS accidents or that result in threatening community health and safety, the OIZ will immediately (not later than 48 hours) inform MoIT, and MoIT will inform the World Bank. In such cases, the OIZ will provide sufficient details regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervising entity/consultant, as appropriate. The OIZ will submit the incident report, including root cause analysis, precautions and compensation measures taken, to MoIT within 30 business days. MoIT will forward the incident report to the Bank immediately upon receipt from the OIZ.

10.2 Reporting

Reporting processes that should be put into action during the implementation phase of the project and the requirements of such processes are presented in Table 46.

Table 46 Reporting Process Requirements and Distribution of Roles

Responsible Party	Reporting Process Requirements
Project Management Unit (PMU) (Bağyurdu OIZ)	▪ Prepare Project Information memos and submit such memos to the MoIT monthly. ▪ Review the Monthly Monitoring Report of the Supervision Consultant and the Contractor's Monthly Monitoring Report and incorporate these to its own monthly compliance report to be submitted to the MoIT. ▪ Prepare and submit monthly compliance reports to the MoIT together with the Grievance Register.
Contractor	▪ Prepare and submit Monthly Monitoring Reports for the approval of the Supervision Consultant and Bağyurdu OIZ. ▪ Submit the Monthly Grievance Mechanism Report to Supervision Consultant.
Supervision Consultant	▪ Supervises the contractor on behalf of Bağyurdu OIZ and prepares monitoring reports twice a year during construction works. ▪ Prepare completion report of ESMP for review by the MoIT. ▪ Submit its own Monthly Monitoring Report to the OIZ as an annex to the Contractor's Monthly Monitoring Report. ▪ Submit the Monthly Grievance Mechanism Report prepared in line with the complaint received to Bağyurdu OIZ.
MoIT	▪ The MoIT will inform the WB with its semi-annual project progress reports that will include a section titled "Environmental and Social Standards" which will summarize the status of Environmental and Social Commitment Plan and compliance with E&S all framework documents and all sub-project specific plans such as ESMP. ▪ Site visits will be carried out periodically and environmental and social issues will be examined on site. ▪ In line with the Monthly Monitoring Reports received, the MoIT will prepare and submit quarterly compliance reports to the World Bank to document construction and compliance activities completed during the period and to track the resolution of any issues that may have occurred, for all sub-projects under implementation.
WB	▪ Reports received by the Ministry will be reviewed. ▪ Together with the Ministry, WB will carry out implementation support missions and site visits, as necessary.

10.3. Training

A number of trainings need to be provided for the management and staff of Bağyurdu OIZ and the Contractor to raise awareness and improve their capacity for responsibility.

The main topics of the trainings to be given to Bağyurdu OIZ by the company preparing this Plan are given below.

- Brief information about the contents of the Environmental and Social Management Plan and Monitoring Plan
- Responsibilities for environmental and social mitigation procedures and monitoring the implementation of measures
- Soil pollution control
- Waste Management
- Water pollution control
- Air quality
- Noise control
- Protection of the biological environment
- Public health and safety,
- Grievance mechanism
- Measures to avoid unintended damage to neighboring properties (land, structures and crops) during the implementation period and to compensate for any damage caused
- OHS Trainings
    1. General topics
        a) Information on labor legislation,
        b) Legal rights and responsibilities of employees,
        c) Workplace cleanliness and order,
        d) Legal consequences arising from work accidents and occupational diseases,
    2. Health topics
        a) Causes of occupational diseases,
        b) Principles of disease prevention and application of prevention techniques,
        c) Biological and psychosocial risk factors,
        d) First aid,
        e) Hazards of tobacco products and passive exposure,
    3. Technical issues
        a) Chemical, physical and ergonomic risk factors,
        b) Manual lifting and transportation,
        c) Glare, explosion, fire and fire protection,
        d) Safe use of work equipment,
        e) Working with screen devices,
        f) Electricity, its hazards, risks and precautions,
        g) Causes of work accidents and the application of protection principles and techniques,
        h) Safety and health signs,
        i) Use of personal protective equipment,
        j) General rules of occupational health and safety and safety culture,
        k) Evacuation and rescue,

- Code of Conduct (Including, Gender-based violence, sexual harassment, sexual exploitation and abuse, etc.)

The main topics of the trainings for the contractor are listed below:

- Brief information about the contents of the Environmental and Social Management Plan and Monitoring Plan
- Responsibilities for environmental and social mitigation procedures
- Soil pollution control
- Waste Management
- Water pollution control
- Air quality
- Noise control
- Protection of the biological environment
- Public health and safety
- Grievance mechanism
- Work safety meetings
- OHS Trainings (on the subjects mentioned above)
- Work-specific meetings
- Code of Conduct (Including, Gender-based violence, sexual harassment, sexual exploitation and abuse, etc.)

It is foreseen that the environmental and OHS trainings deemed necessary within the scope of the project will be given by the experts in their departments. Therefore, it will not create an additional budget. However, there will be a need for external experts for other trainings. Therefore, a cost of 350 euro/day is estimated.

ANNEXES

Annex-1: Title Deed Register

İli	İZMİR
İlçesi	KEMALPAŞA
Mahallesi	HALİLBEYLİ
Köyü	
Sokağı	
Mevkii	

Türkiye Cumhuriyeti

TAPU SENEDİ

Fotoğraf

Satış Bedeli	Pafta No.	Ada No.	Parsel No.	Yüzölçümü ha	Yüzölçümü m²	Yüzölçümü dm²
0,00	K19D-23D-3D	110	1		29.491,62 m2	

GAYRİMENKULÜN

Niteliği	Arsa
Sınırı	Planındadır Zemin Sistem No : 97719268
Edinme Sebebi	HALİLBEYLİ Mah. 1628 Parsel taşınmazının İfraz İşlemi (TSM) işleminden.
Sahibi	BAĞYURDU ORGANİZE SANAYİ BÖLGESİ Tam

Geldisi		Yevmiye No.	Cilt No.	Sahife No.	Sıra No.	Tarihi	Gittisi	
Cilt No.		13537	20	1938		22/11/2017		Cilt No.
Sahife No.		Sicile Uygundur Zeki SOLMAZ Yetkili Müdür Yardımcısı						Sahife No.
Sıra No.								Sıra No.
Tarih								Tarih

NOT : * Mülkiyetin gayri ayni haklar ile şerhler için tapu kütüğüne müracaat edilmelidir.
** Tebligat Kanunu Hükümleri gereğince adres değişikliği ilgili Tapu Sicil Müdürlüğüne bildirilecektir.

D.M.O. Basım İşl. Md. Döner Sermaye İşletmesi tarafından bastırılmıştır. Stok No 129

Annex-2: Title Deed Register

TÜRKİYE CUMHURİYETİ
TAPU SENEDİ

TAŞINMAZ BİLGİLERİ

İl:	İZMİR
İlçe:	KEMALPAŞA
Mahalle/Köy:	HALİLBEYLİ
Mevki:	
Ada: 104	Parsel: 27
Yüz Ölçümü: 5.258,47 m2	Cilt/Sayfa No: 21 - 2057
Niteliği: ARSA	

MALİK BİLGİLERİ

Adı Soyadı/Baba Adı:	Hissesi:	Hisseye düşen m²:
BAĞYURDU ORGANİZE SANAYİ BÖLGESİ	Tam	5.258,47

TESCİLE İLİŞKİN BİLGİLER

Taşınmaz No:	Edinme Nedeni:	İşlem Bedeli:
123589338	İfraz İşlemi (TSM)	
Konum Bilgisi:	Tescil Tarihi/Yevmiye No:	Siciline Uygundur
	15/09/2022 - 22959	Veriliş Tarihi : 15/09/2022 Melih ERGUN Yetkili Müdür Yardımcısı

Mülkiyetin dışındaki ayni ve şahsi haklar ile şerh ve belirtmeler için tapu siciline müracaat edilmesi gerekmektedir.

Annex-3: EIA Certificate

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

İZMİR VALİLİĞİ
Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Karar Tarihi: 04-04-2022
Karar No: 48657465 220-02 E-202282

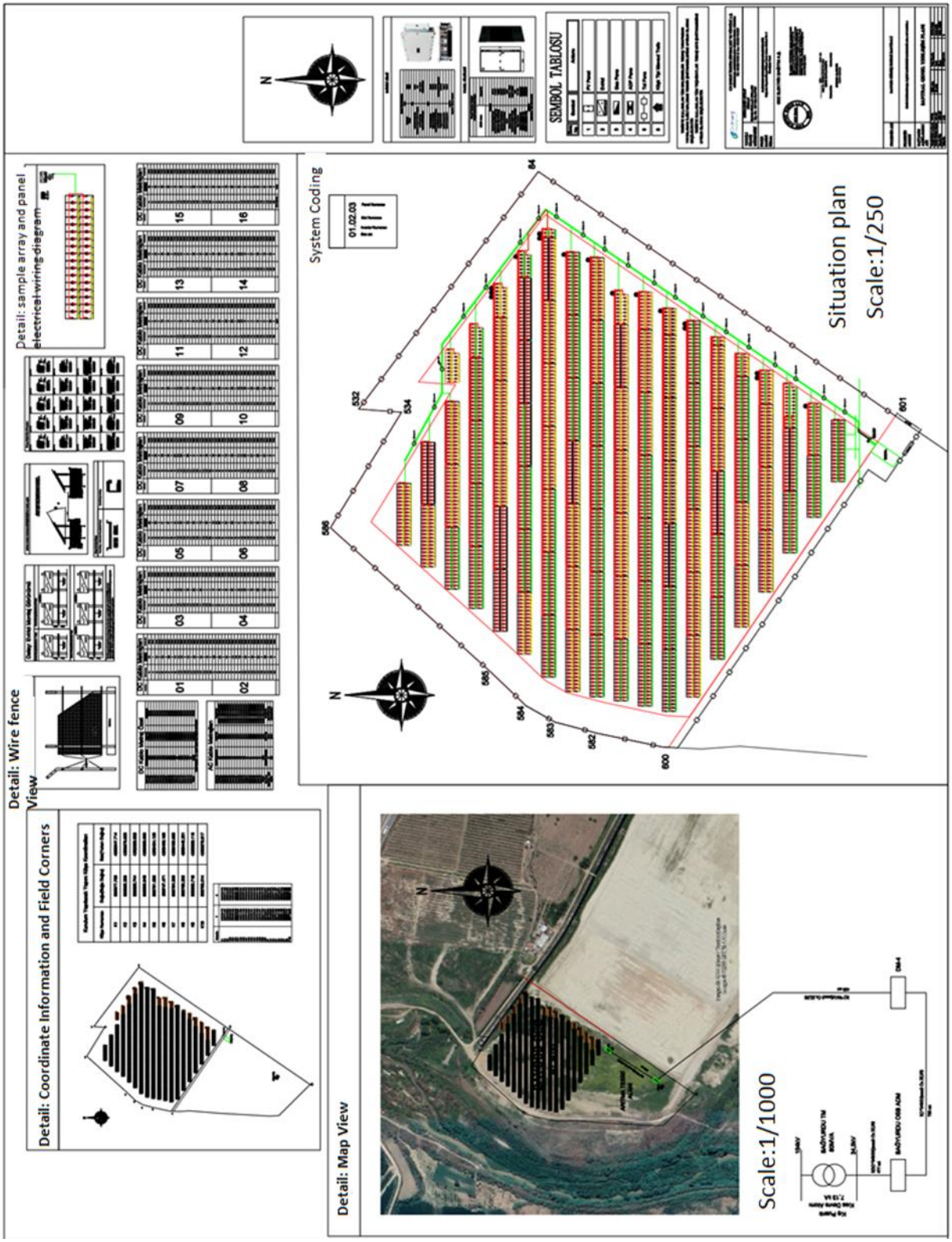
ÇEVRESEL ETKİ DEĞERLENDİRMESİ (ÇED) BELGESİ

25.11.2014 tarih ve 29186 sayılı Resmi Gazetede yayımlanarak yürürlüğe giren Çevresel Etki Değerlendirmesi Yönetmeliği'nin Ek-2 listesinde yer alan ***"1,6 MWe Güneş Enerji Santrali"*** ile ilgili olarak inceleme-değerlendirme yapılmış ve proje tanıtım dosyasındaki çevresel etkilere karşı alınması öngörülen önlemler yeterli görülmüştür. Ayrıca ÇED Raporu hazırlanmasına gerek bulunmadığı tespit edilmiş olup söz konusu proje için ÇED Yönetmeliğinin 17. Maddesi gereğince Valiliğimizce **"Çevresel Etki Değerlendirmesi Gerekli Değildir Kararı"** verilmiştir.

İsmail ÇORUMLUOĞLU
Vali
Vali Yardımcısı

Proje Sahibi : Bağyurdu Organize Sanayi Bölgesi
Projenin Yeri : İzmir İli, Kemalpaşa İlçesi, Halilbeyli Mahallesi, Bağyurdu Organize Sanayi Bölgesi, (110 Ada ve 1 Numaralı Parsel)

Annex-4: Solar Power Plant Site Plan



Annex-5: Technical Review Report

T.C.
ANKARA YILDIRIM BEYAZIT ÜNİVERSİTESİ
Mühendislik ve Doğa Bilimleri Fakültesi
İnşaat Mühendisliği Bölümü

15 Temmuz Yerleşkesi-Ayvalı Mah. Takdir Caddesi 150 Sk. No:5 Etlik-Keçiören/ANKARA
Tel: 0. 312. 906 22 22

TEKNİK İNCELEME RAPORU

İlgi: Serdar Proje adına Ömer Serdar Pilatin'in 07.09.2022 tarih ve sayılı dilekçesi.

İzmir ili, Kemalpaşa ilçesi, Halilbeyli Mah., 110 Ada, 1 Parselde yer alacak olan, arazi üzerine kurulması planlanan BAYOSB'ye ait yapılacak 1600,00 kWe gücündeki BAYOSB GES Güneş Enerji Santralinin statik hesap ve uygulama projeleri incelenmek ve onaylanmak üzere tarafıma sunulmuştur. Adı geçen Güneş Enerji Santralinin projelerinde belirtilen malzemeler kullanılarak oluşturulan GES taşıyıcı sistemi tarafımca uygun bulunmuş, GES alt konstrüksiyon sisteminin yapısal hesaplamalarında kullanılan yük değerleri (kar ve rüzgar yükleri), malzeme özellikleri, uygulanan yöntemler, hesaplanan ölçü ve kesit boyutları ve elde edilen sonuçlar bilimsel ve teknik açıdan tarafımca uygun bulunarak onaylanmıştır.

Doç. Dr. Mehmet BARAN
Mühendislik ve Doğa Bilimleri Fakültesi
İnşaat Mühendisliği Bölümü Öğretim Üyesi

Annex-6: EIA Out of Scope letter

T.C.
İZMİR VALİLİĞİ
Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü

Sayı : E-48657465-220.99-5212662

Konu : Muafiyet (Bağyurdu Organize Sanayi Bölgesi)

BAĞYURDU ORGANİZE SANAYİ BÖLGESİNE

İlgi : a) 28.11.2022 tarihli ve 5121755 sayılı yazımız.
b) 05/12/2022 tarih ve 4937823 kayıt sayılı dilekçe.

İlgide kayıtlı dilekçe ile; İlimiz Kemalpaşa İlçesi tapunun 104 ada ve 27 nolu parselinde "Bağyurdu Organize Sanayi Bölgesi" tarafından kurulması planlanan "180 kWe gücünde DC araç şarj istasyonu kurulumu" faaliyeti için ÇED Yönetmeliği kapsamında güncel görüşümüz talep edilmektedir.

Müdürlüğümüzce dosyasında yapılan incelemede; İlimiz, Kemalpaşa İlçesi tapunun 102 ada ve 16 parselinde kurulması planlanan "180 kWe gücünde DC araç şarj istasyonu kurulumu" faaliyetinin yer değişikliği yapılarak İlimiz, Kemalpaşa İlçesi tapunun 104 ada ve 27 nolu parselinde kurulmasının planlandığının beyan ve taahhüt edildiği tespit edilmiş olup, söz konusu faaliyetiniz EK-I (Çevresel Etki Değerlendirmesi Uygulanacak Projeler Listesi) ve EK-II (Çevresel Etkileri Ön İnceleme ve Değerlendirmeye Tabi Projeler) listelerinde yer almadığından ÇED Yönetmeliği kapsamı dışında değerlendirilmiştir. Ayrıca yer değişikliği sebebiyle ilgi (a) yazımız iptal edilmiştir.

Bu görüş, sadece ÇED Yönetmeliği kapsamında verilmiş olup nihai izin/onay niteliği taşımamaktadır. Bu nedenle, faaliyetle ilgili mer'i mevzuat uyarınca tüm izinlerin alınması, faaliyette herhangi bir değişiklik planlanması durumunda Müdürlüğümüze yeniden başvuru yapılması gerekmektedir.

Bilgilerinizi ve gereğini rica ederim.

Ömür ÖZDİL
Vali a.
Çevre, Şehircilik ve İklim Değişikliği İl Müdürü

Annex-7: TEIAS letter of conformity

T.C.
ENERJİ VE TABİİ KAYNAKLAR BAKANLIĞI
Türkiye Elektrik İletim Anonim Şirketi Genel Müdürlüğü
Planlama ve Yatırım Yönetimi Dairesi Başkanlığı

TEİAŞ

Sayı : E-60830501-102.01-1364935
Konu : Bağyurdu TM Lisanssız GES

DAĞITIM YERLERİNE

İlgi : a) Bağyurdu Organize Sanayi Bölgesi'nin 28.07.2022 tarihli ve 547 sayılı yazısı.
b) Bağyurdu Organize Sanayi Bölgesi'nin 29.07.2022 tarihli ve 2022/575 sayılı yazısı.

İlgi yazılarınız ve Teşekkülümüzdeki bilgiler doğrultusunda görüşümüz aşağıdaki gibidir.

Başvuru Sahibi ve Kurulu Güç	• Dönmez Debriyaj San. ve Tic. A.Ş. – 1400 kW • Bağyurdu Organize Sanayi Bölgesi – 1600 kW
Santral Tipi	Lisanssız Çatı/Cephe GES
İli	İzmir/Manisa
Bağlanacak /Yönlendirilecek Bara(TR-A/TR-B)	Bağyurdu TM'nin OG Barası (80+80 MVA)
OG Baraya Bağlı/Bağlanacak Diğer Santraller ve Kurulu Güçleri	• 27.64 MW'lık Lisanssız GES'ler (Gdz EDAŞ) • 3.1 MW'lık Lisanssız GES (Öztüketim- GDZ EDAŞ) • 2.9 MW'lık Lisanssız GES'ler (Bağyurdu OSB) • 9.13 MW'lık Lisanssız GES (Turgutlu OSB) • 0.24 MW'lık Manisa Geri Dönüşüm BES (Öztüketim) • 2.134 MW'lık Turgutlu BES • 6 MW'lık Halilbeyli Biyogaz Enerji Santrali • 7 MW'lık Biyozer Enerji Lisanssız Biyokütle Tesisi

Yukarıda adı geçen lisanssız üretim tesislerinin sistem bağlantısı Elektrik Piyasasında Lisanssız Elektrik Üretimine İlişkin Yönetmeliğin Madde-5 (1-c) ve Madde-7 (5) hükümleri ile ilgili diğer mevzuatların teknik kriterleri dahilinde Teşekkülümüz tarafından değerlendirilmiştir. Bu kapsamda. söz konusu lisanssız üretim tesislerinin Bağyurdu TM'nin OG barasına yönlendirilmesi durumunda TM'nin OG barasındaki kısa devre arıza akım limit değeri olan 16 kA aşılmamaktadır.

Gereğini ve bilgilerinizi rica ederiz.

BAYOSB GELEN EVRAK
Tarih ..10/08/2022
Sayı 512
İlgili Kişi Ayşe Nur
İmza

Bu belge, güvenli elektronik imza ile imzalanmıştır.
Doğrulama Kodu: EABD8A78-6B4F-4BFE-8284-10B30610AD53
Doğrulama Adresi: https://www.turkiye.gov.tr/teias-ebys
Nasuh Akar Mah.Türkocağı Cad.No:12 ABCD Blok Kat: 18 Balgat / ÇANKAYA / ANKARA (06100)
Sermaye: 12,8 Milyar TL Vergi D: Ankara Kurumlar Vergi No: 879 030 4314 ASO: 5887 ATO: 165458
KEP Adresi : teias@hs01.kep.tr

Bilgi için:Gülşah ŞENAYSOY
AĞARAN
Mühendis

Annex-8: OIZ Distribution License

T.C.
ENERJİ PİYASASI DÜZENLEME KURUMU

EPDK

OSB DAĞITIM LİSANSI

Lisans No : ED-OSB/5006-6/02991

Tarih :15/05/2014

Bu Lisans; **Bağyurdu Organize Sanayi Bölgesi**'ne, onaylı sınırları içerisinde 15/05/2014 tarihinden itibaren 49 (kırkdokuz) yıl süreyle OSB elektrik dağıtım faaliyeti göstermek üzere 6446 sayılı Elektrik Piyasası Kanunu ve ilgili mevzuat uyarınca Enerji Piyasası Düzenleme Kurulu'nun 15/05/2014 tarihli ve 5006-6 sayılı Kararı ile verilmiştir.

Mustafa YILMAZ
Başkan

Annex-9: Grievance Receiving Form

GRIEVANCE FORM			
Name of person receiving grievance:		Date:	
Title:			
INFORMATION ABOUT COMPLAINANT		**Ways of Receiving Grievance**	
(This section may not be filled if the complainant wishes to remain anonymous)			
Name – Surname		Phone	☐
Phone number		Meetings	☐
Address		Application to Office	☐
District/Neighborhood		Mail/e-mail	☐
Signature (if possible)		Field visit	☐
		Other:	☐
DETAILS OF GRIEVANCE			

Annex-10: Grievance Close-Out Form

Grievance closeout number:		
Define immediate action required:		
Define long term action required (if necessary):		
Compensation Required?	[ ] YES	[ ] NO
CONTROL OF THE REMEDIATE ACTION AND THE DECISION		
Stages of the Remediate Action		Deadline and Responsible Institutions
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

COMPENSATION AND FINAL STAGES

This part will be filled and signed by the complainant after s/he receives the compensation fees and/or his/her complaint has been remediated.

Notes:

[Name-Surname and Signature]

Date: ___ / ___ / _____

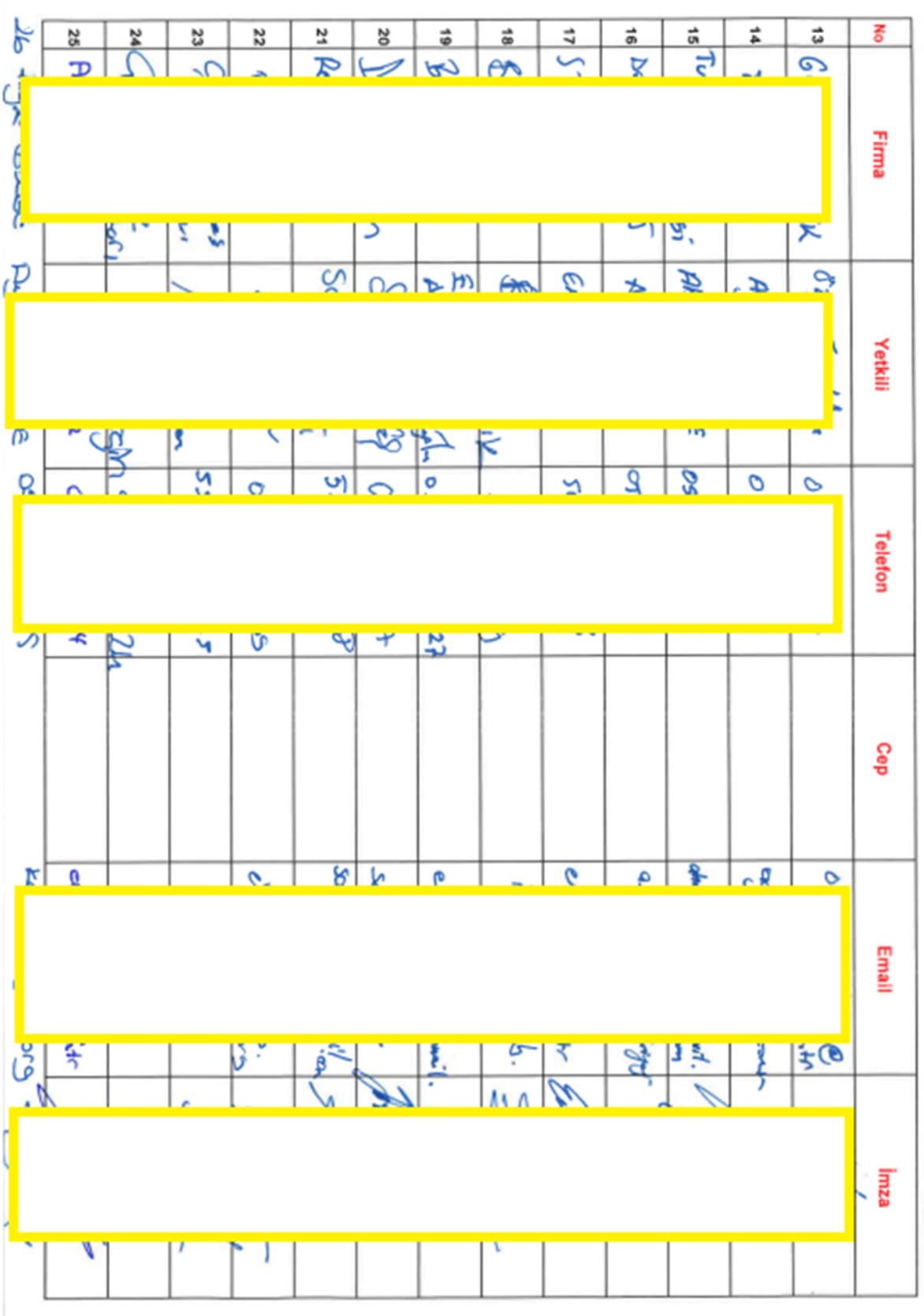
Of the Complainant:

Representative of the Responsible Institution/Company
[Title-Name-Surname and Signature]

Annex-11: Participant List of Stakeholder Engagement Meeting (25.01.2023)

BAĞYURDU ORGANİZE SANAYİ BÖLGESİ 25/01/2023
"PAYDAŞ KATILIMI VE BİLGİLENDİRME TOPLANTISI"

No	Firma Adi	Adi-Soyadi	Telefon	Cep	Email	Imza
1	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
2	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
3	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
4	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
5	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
6	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
7	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
8	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
9	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
10	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
11	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]
12	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]


No
Firma
Yetkili
Telefon
Cep
Email
İmza

Annex 12. Stakeholder Engagement Meeting Minute (25.01.2023)

BAĞYURDU OSB GES VE HIZLI ŞARJ İSTASYONU

PAYDAŞ KATILIM TOPLANTI TUTANAĞI - STAKEHOLDER ENGAGEMENT MEETING MINUTE

Date: 25.01.2023

Time: 14:00

Notes:

- Number of participants: 26.
- The meeting started with the speech of Bağyurdu OIZ Director Figen Akdemir.
- Çedfem Official Hüsamettin Çoban gave information about the meeting flow.
- All stakeholders and participants introduced themselves.
- A presentation of the project was made by the Çedfem Official.
- At the end of the presentation, questions and opinions were received.

QUESTION: (Aykut YANIK TEKBAN Firm): How many vehicles can be charged at the same time in the project area? Can there be an increase if demand increases? Can OIZ employees be given priority?

ANSWER: (Figen AKDEMİR-OSB Manager): 2 vehicles can be charged at the same time. We have the infrastructure that can be increased upon demand. Necessary arrangements can be made.

INFORMATION (ÇEDFEM Official Hüsamettin ÇOBAN): In the carbon footprint calculation, most of the energy consumed by the OIZ companies within the scope of the green agreement will be produced from renewable energy. This will bring advantage to the companies in the OIZ. The doors of OIZ companies will be opened for export within the scope of the European Union.

Question: (Headman-Hamza TURAN) How will the charging station be charged?

ANSWER: (Figen AKDEMİR-OSB Manager): Fees will be determined at the end of the project. Numbers will be kept to a minimum as much as possible.

QUESTION: (Çağatay YILDIRIM-Aymas MAKİNA) Will a washing machine be purchased for panel washing? Can we also use it for cleaning solar panels belonging to our company? Can you also provide services to companies in OIZ?

ANSWER: (Figen AKDEMİR-OIZ Manager): Of course, it can be evaluated at the end of the project.

QUESTION: (Figen AKDEMİR, OIZ Manager) He asked the headmen if there were any electric vehicles in their region.

ANSWER: (Mukhtar-İnan GİRGİN) He stated that he does not use electric vehicles.

QUESTION: (Namik DEMIR-VOLZ Hydraulic): Is there a need for lightning rods in open fields?

What to do with waste when panels are damaged?

ANSWER: (Figen AKDEMİR-OIZ Manager): There are 4 lightning rods. The wastes will be stored in the OIZ waste site and sent to the licensed disposal facility.

QUESTION: (Aykut YANIK TEKBAN Firm): Will energy be stored?

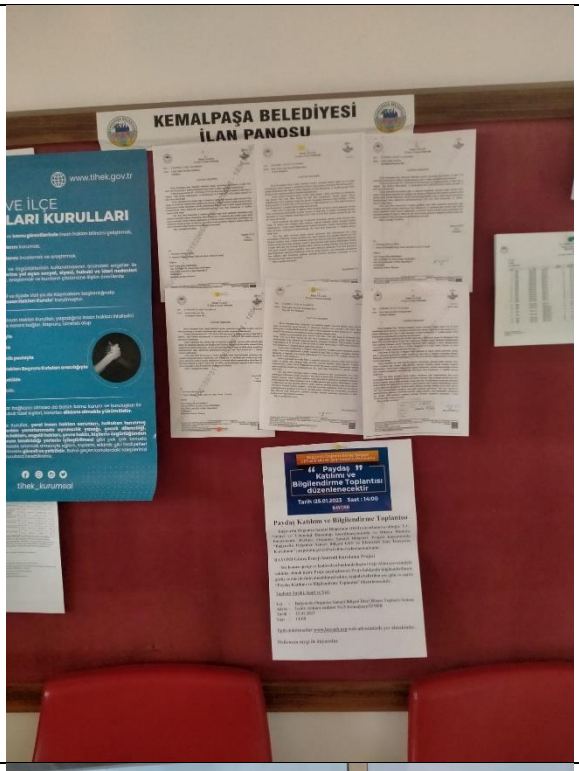
ANSWER: (Figen AKDEMİR-OIZ Manager): No, there will be no storage.

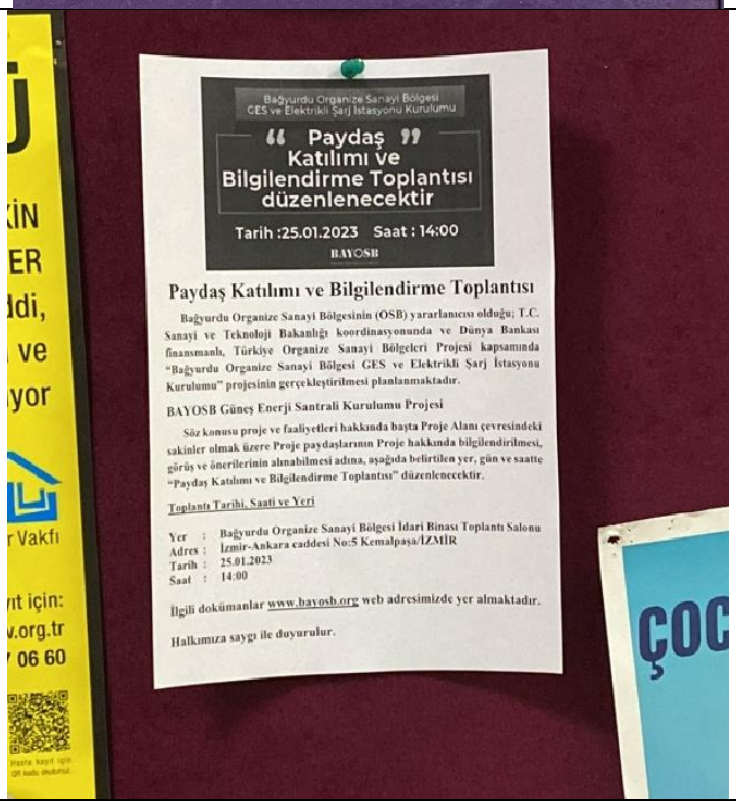
QUESTION: (Headman- Recep BATUR): What is the vehicle charging time?

ANSWER: (Figen AKDEMİR-OIZ Manager): Between 15-18 minutes.

- After the questions, the OIZ Director Figen AKDEMİR ended the meeting with a speech of thanks.

Annex 13. Announcements of Stakeholder Engagement Meeting (25.01.2023)

District Municipality	
District Municipality	

Settlement	
Settlement	

Local newspaper	
OIZ	

Annex 14. Photos from the Stakeholder Engagement Meeting (25.01.2023)

Annex-15 Chance Find Procedure

INTRODUCTION

This document presents the Chance Find Procedure for Bagyurdu OIZ 1.6 MW SPP, 2500 kVA Transformer and Fast Charging Station Installation Project. This document is intended to avoid potential impacts of the Project on any cultural heritage during land preparation works, including excavation. At the baseline studies, field survey and literature review were conducted for the Project and its vicinity to identify potential archaeological and immovable cultural properties. No archaeological or immovable cultural property was encountered during the study.

This Procedure is a part of the general package as an annex to the Environmental and Social Management Plan (ESMP) developed for the Project.

SCOPE

Types of Cultural Heritage Covered by This Procedure

Tangible Cultural Heritage

Tangible (physical) cultural heritage refers to movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.

ROLES AND RESPONSIBILITIES

Roles	Responsibilities
Contractors	• Compliance with the Chance Find Procedure provided in contractor agreements • Provide appropriate training and information to the worksite personnel who work in the projects and who may disturb the cultural heritage so that they understand their responsibilities for cultural heritage
Project Owner (Bagyurdu OIZ)	• Ensure compliance of the project with the Project Standards and other requirements given in this Plan • General responsibility for the scope and implementation of the Plan • Development, monitoring and revision of this Plan • Fulfilment of cultural heritage evaluation processes • Ensure that the operations do not disturb cultural properties and sites without the approval of the relevant authority • Investigation, reporting and monitoring of unauthorized damages to the worksite as well as of procedure violations • Management of amendments to laws or policies • Coordination with the organizations involved in the implementation and other stakeholders
All Workers	• Learn about the Chance Find Procedure through induction training and any other training provided

PROJECT STANDARDS

- Law on the Conservation of Cultural and Natural Properties (LCCNP) (No: 2863),
- World Bank Environmental and Social Standard 8: Cultural Heritage (ESS 8),
- Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention).

CHANCE FIND PROCEDURE

Initial Approach Adopted by the Contractor

- Action 1: Immediately stop all construction works in the vicinity of the chance find, in case of discovery of archaeological finds;
- Action 2: Immediately notify the project manager and/or environmental department;
- Action 3: Take photographs or make technical drawings;
- Action 4: Record the location of the location by keeping all remains in their position (without moving them);
- Action 5: Prevent damage to or loss of movable objects by encircling the area;
- Action 6: Contact an archaeologist from a local university for guidance;
- Action 7: Prepare the Chance Find Form (Annex: 16 **Sample Chance Find Form**).

Approach Adopted by the Archeologist

Based on the description of the find, the archaeologist will make recommendations on actions to be taken by phone/e-mail or visit. The Project team will take into account the following possible strategies, if the archaeologist(s) confirm(s) the presence of archaeological finds/remains/sites:

Strategy 1: Avoidance by partial or full project redesign or relocation

In case of any archaeological find or discovery, the Bagyurdu OIZ will provide the relevant information to authorities. This responsibility will apply even if the project is redesigned or relocated. In any case, the relevant governmental body will be informed of the archaeological find or discovery.

Strategy 2: Implementation of worksite protection measures

This option includes the implementation of site protection measures such as fencing or blockage. As per LCCNP No. 2863, any archaeological find is the property of the Republic of Turkiye, and governmental bodies will decide on the geographical scope and implementation of site protection measures.

Strategy 3: Rescue or emergency excavation

If the Bagyurdu OIZ fails to relocate or redesign the Project, this may require rescue or emergency excavation works. If notification is stipulated by LCCNP, an application will be lodged to governmental bodies. If an official application is lodged, the relevant Regional Board will be allowed to make a decision.

After the permit is obtained, archaeological excavations will be performed with the attendance of scientific consultants from the archaeological departments of universities. Following the completion of archaeological excavations, the results will be submitted to relevant governmental bodies for the final decision to be taken for the progress of the Project.

Procedure for the Discovery of Potential Human Remains

Identification of human remains is very clear in terms of graves or burial sites. If a grave or burial site is found, the procedures to be followed are not different from the procedure applicable to archaeological finds as per Article 6 of LCCNP. Modern burials or forensic human remains will not be addressed within the scope of LCCNP.

KEY PERFORMANCE INDICATORS

The key performance indicators to be USED during the implementation of this Procedure are set out below.

Key Performance Indicators (KPIs)

No	KPIs	Target	Monitoring Measure
1	Non-conformities reported during the year with respect to key management controls identified in this Plan	Minimization of reported non-conformities, aiming at zero	Database Reporting Inspection Reports
2	Number of complaints lodged by local communities during the year regarding cultural heritages	Investigation of complaints about cultural heritage (disrespect, destruction, removal, sale of artefacts) and fulfilment of relevant actions. • Provision of prompt response to complaints from local communities regarding the misbehaviour of personnel regarding cultural properties	Database Grievance Mechanism Records Reporting

Annex: 16 Sample Chance Find Form

Place:	Chance Find No:	Date:
Location Data: **Coordination:** **Elevation:** **Brief Area Description:**		
Chance Type:	[ ]Archaeological Items [ ]Metal Finds [ ]Terracotta Finds [ ]Pottery Shards [ ]Glass Finds	[ ]Sculpture etc. [ ]Human / Animal Bone [ ]Unidentified
Temporary Measures		
Photograph		
Discoverer's Name-Last Name:		
Signature:		