VERGO ENERJİ SİSTEMLERİ SAN. VE TİC. A.Ş.
ENVIRONMENTAL AND MANAGEMENT PLAN- SEPTEMBER 2023
CNR-PLN-VRG-ESMP-001
(Rev.01)

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DOCUMENT REVISION HISTORY SHEET

Rev.	Date	Prepared by	Checked by	Approved by	Description
01	September 2023	İ.Ö. C.E. Ö.Ç. M.Ç.	İ.Ö. Ö.Ç.	A.C.A.	Rev.01

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LIST OF ABBREVIATIONS/DEFINITIONS

˚C	Centigrade Degree
BEKRA	Reducing Major Industrial Accident Risks
BOD5	Biochemical Oxygen Demand
ÇINAR	Çınar Mühendislik Müşavirlik A.Ş.
dB(A)	Decibel
E&S	Environmental and Social
EÇBS	Integrated Environmental Information System
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EPRP	Emergency Action Plan
ESAP	Environmental and Social Action Plan
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management Systems
ESS	Environmental and Social Standards
EUCC	Environment, Urbanization and Climate Change
Facility Owner	VERGO Enerji Sistemleri San. ve Tic. A.Ş. (VERGO)
FC	Full Compliance
FI	Financial Intermediary
GIIP	Good International Industrial Practices
GP	Good Practices
GRM	Grievance Redress Mechanism
HR	Human Resources
IBC	Intermediate Bulk Container
IFC	International Finance Corporation
IWMP	Industrial Waste Management Plan
KBA	Key Biodiversity Areas
m2	Square meters
m3	Cubic meters
mg	Milligram
MoEUCC	Ministry of Environment, Urbanization and Climate Change
MoTAT	Mobile Waste Tracking System
MSDS	Material Safety Data Sheets
NACE	Nomenclature des Activités Économiques dans la Communauté Européenne
No	Number
OHS	Occupational Health and Safety
OIZ	Organized Industrial Zone
OSBÜK	Organized Industrial Zones Superior Institute (Organize Sanayi Bölgeleri Üst Kuruluşu)
PC	Partial Compliance
PPE	Personal Protective Equipment
PS	Performance Standards
SCAP	Safeguard Corrective Action Plan
SEP	Stakeholder Engagement Plan
TKYB	Türkiye Kalkınma ve Yatırım Bankası (Development and Investment Bank of

	Türkiye)
TUIK	Turkish Statistical Institute
VOC	Volatile Organic Compounds
WB	World Bank
WBG	World Bank Group

LIST OF APPENDICES

1. INTRODUCTION

VERGO Enerji Sistemleri San. ve Tic. A.Ş. ("VERGO"), which is one of the companies that produces and exports solar energy systems in Turkey, focuses on the production/manufacturing of solar panel carrier construction systems (steel) and offers design, projecting, production and on-site assembly services in line with the demands of the customers.

VERGO began its operations in 2015 in Organized Industrial Zone (OIZ) of Halilbeyli at Kemalpaşa district, İzmir province with total facility area of 16 decares. After signing the contract (23.12.2020 with no: 2020/0064/0) with Türkiye Kalkınma ve Yatırım Bankası (Development and Investment Bank of Türkiye – "TKYB" or "Bank") and getting the loan for the construction of new facility to be paid back until 22.06.2028, VERGO has purchased the new industrial area[1] (which has total allocated area of 62.494,59 m^2 with 17.817 m^2 closed area according to the declaration of VERGO) in Salihli Organized Industrial Zone (OIZ)/ Manisa. In January 2021, another consultant firm prepared Management Plans to cover the construction and operation phases of the project.

VERGO fully completed to moving process in August, 2021 from Kemalpaşa, İzmir to Salihli, Manisa. It continues to work in Salihli OIZ with NACE code of 28.99.90 (see Appendix-2). In the facility, the steel rolls[2] are subjected to slitting/cutting, punching (Press Line), bending (by means of press brake and roll form machines) and quality control processes in order to produce pipe&box, profile (C-U) and Wbeam.

Safeguard Corrective Action Plan (SCAP) was prepared by VERGO upon the request of the World Bank after the successive occupational accidents that occurred within VERGO. In line with the improvements made within the scope of this document, TKYB has requested revision of Environmental and Social Management Plan (ESMP), Occupational Health and Safety (OHS) Management Plan and Emergency Preparedness Plan documents. SCAP Document is presented in Appendix-7.

The purpose of this ESMP is to provide a practical plan to prevent, minimize or manage the potential environmental and social impacts associated with the facility's operations, as well as to enable meaningful and inclusive multi-stakeholder consultations and participation throughout the entire program life cycle. This includes an evaluation in accordance with IFC Performance Standards (PSs), World Bank Group (WBG) General and Sector-specific Environmental Health and Safety (EHS) Guidelines, Good International Industry Practices (GIIP) together with national legislation and TKYB's Environmental and Social Policy. In order to carry out the revisions requested by TKYB, Çınar Mühendislik Müşavirlik A.Ş. (ÇINAR or Consultant) has been appointed as the consultant.

[1] It is seen that the surface area is 28,620.64 m^2 in the deed of real estate.
[2] For the pipe production line, galvanized steel is used.

1.1 General Overview

1.1.1 Project Area

The facility is located in the Salihli OIZ, which is within the borders of Manisa Province, Salihli District, Torunlu Neighborhood.

On the other hand, 21,251.75 m^2 of land in the parcel adjacent to the existing facility in Salihli OIZ is allocated to VERGO, and it is planned to establish a Galvanizing Facility in this area that will enable galvanization of steel profile products with a hot-dip coating system. It has been declared that the financing and feasibility of the project has not been clarified yet. In addition, VERGO is in the process of establishing a new facility that will operate in the production of solar energy panels carrier construction systems in Aliağa district of İzmir province. It was learned that some of the equipment and personnel have been moved to Aliağa. On the other hand, new machines located in S&D Line and Press Line has gotten into act recently in the facility at Salihli OIZ. Tittle deed and land allocation are presented in Appendix-1.

Location map of existing and planned facilities is given in Figure 1.

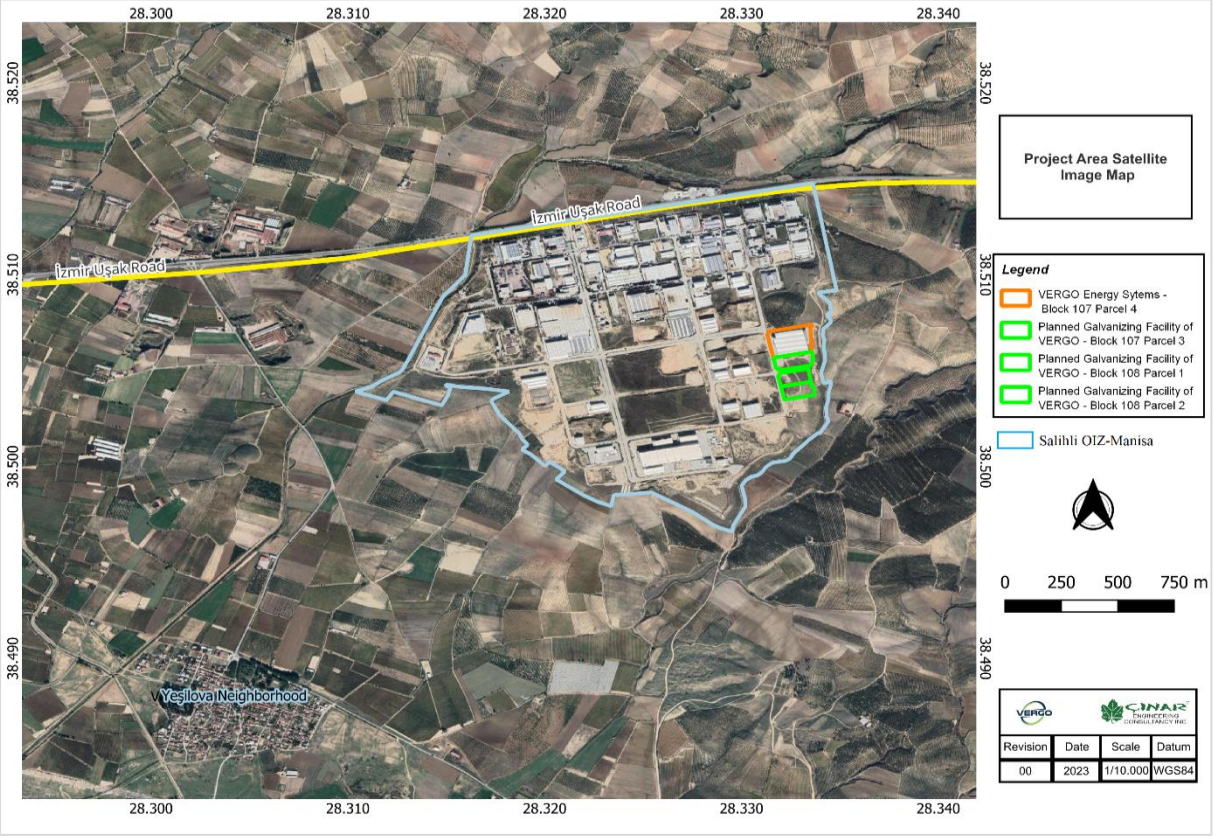


Figure 1. Location of the Existing Facility and Planned Facility in Salihli OIZ

1.1.2 Process Description

According to the Capacity Report (see Appendix-4) prepared on 27.12.2022 and valid until 28.12.2024, VERGO has annual production capacities of:

- 114,716 tons for solar panel connection profile production,
- 86,301.350 tons for solar panel connection profile drilling production,
- 18,909.333 tons for solar panel connection pipe profile spinning and drilling production,
- 2,348.865 tons for PV panel integration and solar structural mechanics manufacturing support structure set (tracking support structure set-2,055 sets/year),
- 17,109.470 tons for PV panel integration and solar structural mechanics manufacturing support structure set (no tracking support structure set-10,627 sets/year),
- 3,616.452 tons for solar power system set (3,164 pcs/year).

Vergo produces solar panel rack systems of Solar Power Plants. The production activities continues along with has 14 Press counters, 5 Roll form counters, 2 Press Brake machines, 1 W-beam (H profile) production line, 1 Pipe plastering and drilling line, 2 saws (one small an one big) and 1 Clamp production line. The raw materials used in the operation phase of the project are as follows:

- Steel Coil Sheet,
- Steel Coil Sheet,
- Aluminum profile,
- Steel Galvanized Pipe,
- Steel Rolled Profile,
- Highcool 1020 BF (Fully Synthetic Coolant),
- ISOLUBE V 73/5 (Solvent-Based Essential Oil),
- PETROGREASE SANUS 150 EP 0 (Grease Oil),
- PETROGREASE FORTIS 254 EP 2 (Grease Oil),
- 16-3601Q Methyl Ethyl Ketone,
- Composite Circle Buckle,
- Composite Circle.

The Production Flow of Press and Roll Form Counters and Press Brake Machine

The steel roll is brought as a raw material into the press counters which is consisted of an opener, a drivers and a press. The steel roll is connected to the opener with the help of the operator. Then the steel roll is transferred from the opener by the carrier. The steel roll is taken to the press.

Then the programming of the product is made from the control panel of the machine and the first piece is produced to get the production approval. The control of process is checked by the quality control team. If the semi-finished product receives the approval, the production activity continues. If not, it is intervened and measured again. After intervention and re-measurement, the production activity carries on. After the approved product is completed, it is taken to the storage area for semi-finished products. For the bending process, the roll form or press brake machines are made necessary adjustments. Then the product is brought from the storage area for semi-finished products to the roll form or press brake counter. The product bending process is finished. The bending operation is completed over CANIAS ERP system and the product is sent to the storage area for the shipment.

W-beam Production Line and Pipe Coating Drilling Production Line Process Flow

The raw material, which is brought to the W-beam Line, is loaded into the entrance of the line. All parameters of the relevant commands (slot holes, the measurements of galvanization and grounding holes) are entered in the control panel of the counter. As a result of the commands given from the control panel of the machine, loading magnets support the products into the production line. The raw material is transmitted to the molds with the help of a carrier magnet to punch slot holes. After the slot holes drilled in 2 steps, the output carrier magnet takes the raw material. It transmits to *Punch* for the drilling process of galvanized and / or grounded holes. The ready product is taken from the production line with the help of the exiting magnets. The product completed get the production completion approval via the CANIAS ERP system and sent to the storage area.

Pipe Coating, Drilling Production Line Process Flow

The raw material is brought to the relevant counter. The raw material, is given to the pipe coating and drilling line, is loaded at the entrance of the line. All parameters of the relevant commands are entered in the control panel of the counter. As a result of the commands given from the control panel of the machine; the pipes, which are to be coated, are supplied into the production line. The pipe whose coating process is completed, is transmitted to the drilling line with the help of the automation-controlled chains. The holes to be drilled in accordance with the technical drawing, is drilled through the punch line then the product is branded. The process controls for the first product are carried out by the line operator and then by the quality control personnel. If approval is given, production starts. If not, it is intervened and re-measured again. After intervention and re-measurement, the production activity carries on. The product completed, gets the production completion approval via the CANIAS ERP system and sent to the storage area.

Following figures summarize the workflow in the facility (also see Appendix-3 for process workflow and general layout).

Figure 2. General View of the Workflow

Figure 3. Steel Rolls/Coils as Raw Materials

Figure 4. Slitting Line and Sliced Roll Sheet

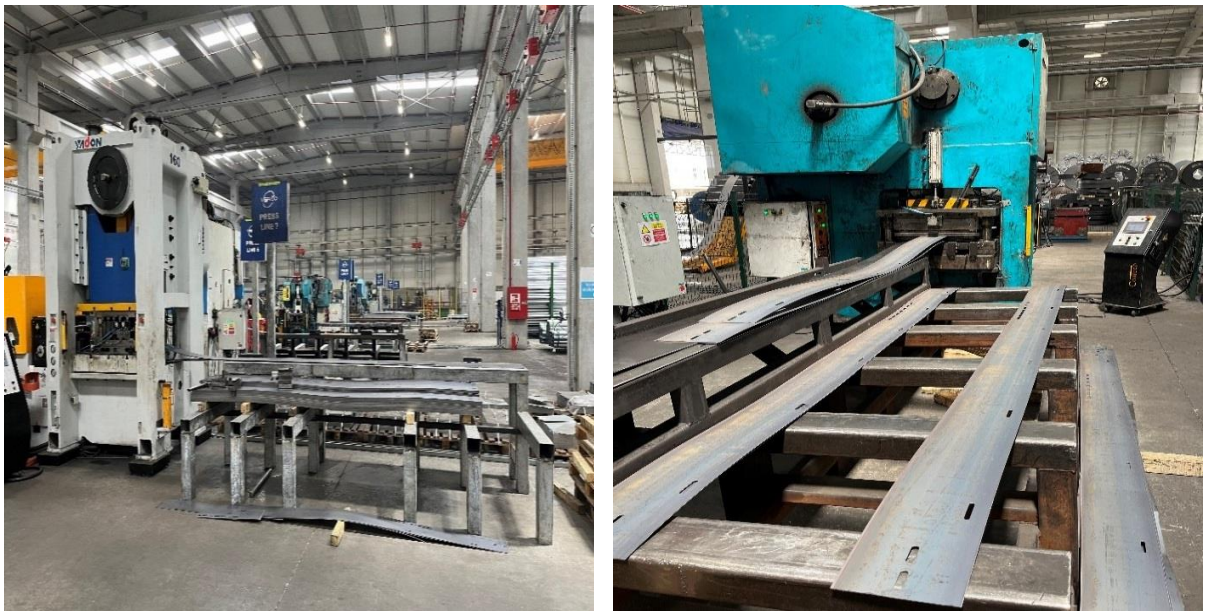


Figure 5. Press Line for Drilling of Sliced Steel Plate

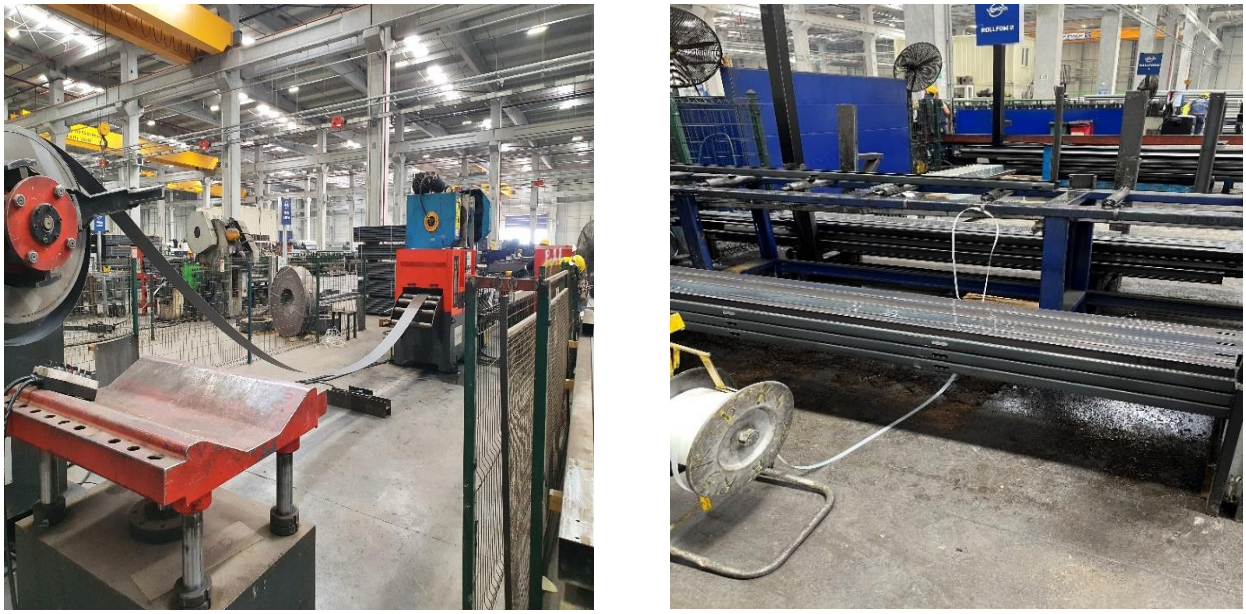


Figure 6. Press Brake and Rollform for Steel Plate Bending

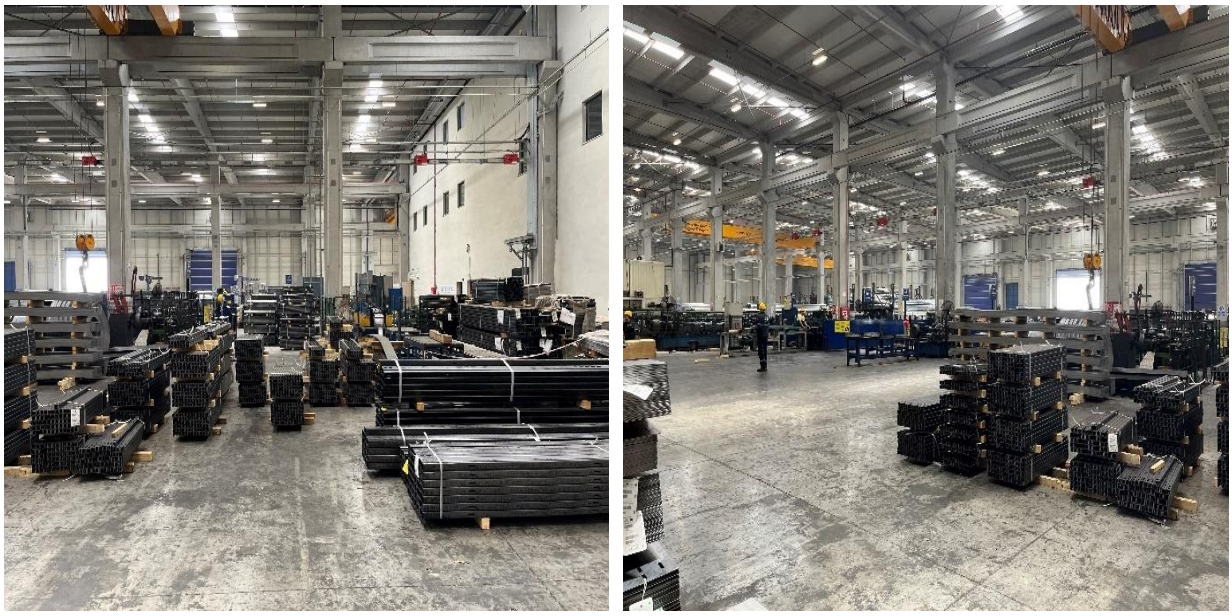


Figure 7. Intermediate Product Storage

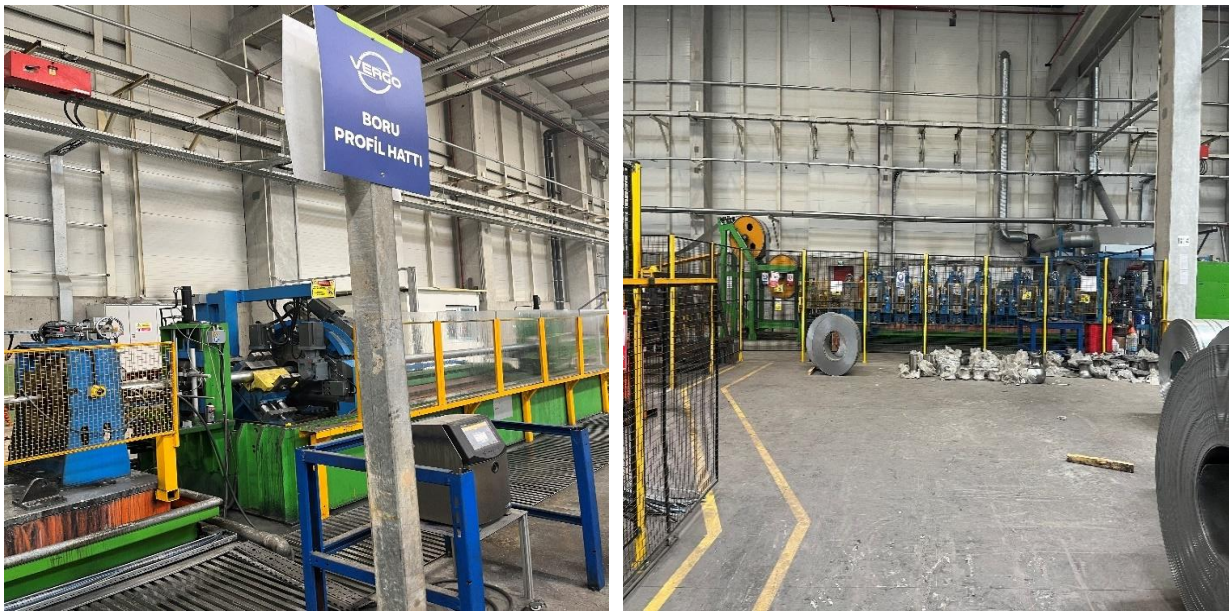


Figure 8. Pipe Profile Production Line

Figure 9. S&D Line for Spinning and Drilling of Pipes

Figure 10. Chamfering Line for Pipes

Figure 11. Final Products Ready for Shipment

1.2 Evaluation within the scope of Regulation on Environmental Impact Assessment (EIA)

The facility activity has “out-of-scope decision” dated 21.12.2021 according to the Regulation on Environmental Impact Assessment (EIA) since it is not listed in its Annex-1 and Annex-2 (see Appendix-5). Besides, within the scope of Regulation on Environmental Permit and License, the facility activity taken part in Annex-2 (3.15 Facilities that produce warehouses, tanks, tankers, containers, doors, machinery and similar from metal sheet with a raw material capacity of 3 tons/day or more) was exempt from all environmental permits (environmental noise, wastewater discharge and air emission) by the decision dated 03.03.2022 of Manisa Provincial Directorate of Environment, Urbanization and Climate Change (EUCC). However, later on, due to changes in process and capacity, it has been found appropriate to give a Temporary Activity Certificate on Air Emission issues with the letter of Manisa Provincial Directorate of EUCC dated 30.03.2023 (see Appendix-6). It should not be forgotten that this Temporary Activity Certificate is valid until 31.03.2024 and environmental permit and license application must be made within 180 calendar days (until 27.09.2023). In addition, the Provincial Directorate Conformity letter dated 07.03.2023 is also shared in Appendix-6.

1.3 Objectives and Scope

The followings are the objectives of the ESMP:

- Describing the Facility components and activities of relevance to the environmental and social impacts assessments.
- Identifying and addressing relevant national and international legal requirements and guidelines
- Developing environmental & social management and monitoring plans in compliance with the relevant environmental laws

- Providing a framework for the implementation of specific management plans by the Facility Owner that will meet the requirements of the national legislation as well as IFC PSs.

The ESMP ensures that throughout the lifecycle of the Facility, the Facility Owner continuously screens all of the activities proposed under the program and monitors potential unintended environmental and social impacts properly and sufficiently as required.

2. APPLICABLE ENVIRONMENTAL AND SOCIAL STANDARDS

2.1.1 National Legislation

The regulations that come into prominence in the project management, especially contained within the Environment Law No. 2872, the Labor Law No. 4857, the OHS Law No. 6331 and the OIZ Law No. 4562, are summarized below.

Table 1. Prominent Regulations Covered by National Legislation

Regulation	Official Gazette Date	Official Gazette Number
Regulation on Environmental Impact Assessment	29.07.2022	31907
Regulation on Environmental Permit and License	10.09.2014	29115
Regulation on Organized Industrial Zones Implementation	02.02.2019	30674
WASTES		
Regulation on Waste Management	02.04.2015	29314
Regulation on Waste Oil Management	21.12.2019	30985
Regulation on Packaging Waste Control	26.06.2021	31523
Regulation on Landfilling of Wastes	26.03.2010	27533
Regulation on Control of Waste Vegetable Oils	06.06.2015	29378
Regulation on Control of Waste Batteries and Accumulators	31.08.2004	25569
Regulation on Control of End-of-Life Tires	25.11.2006	26357
Regulation on Zero Waste	12.07.2019	30829
Regulation on Control of Medical Wastes	25.01.2017	29959
AIR		
Regulation on Industrial Air Pollution Control	03.07.2009	27277
Regulation on Air Quality Assessment and Management	06.06.2008	26898
Regulation on the Monitoring of Greenhouse Gas Emissions	17.05.2014	29003
Regulation on Exhaust Gas Emission Control	11.03.2017	30004
SOIL		
Regulation on Control of Soil Pollution and Point Source Contaminated Sites	08.06.2010	27605
NOISE		
Regulation on Environmental Noise Control	30.11.2022	32029
WATER		
Regulation on Water Pollution Control	31.12.2004	25687
Regulation on Surface Water Quality	30.11.2012	28483
Regulation on the Quality and Treatment of Drinking Water Supply	06.07.2019	30823
Regulation on Water Intended for Human Consumption	17.02.2005	25730
Regulation on the Protection of Groundwater against Pollution and Deterioration	07.04.2012	28257
Regulation on the Procedures and Principles to be Followed in Determining the Tariffs of Wastewater Infrastructure and Domestic Solid Waste Disposal Facilities	27.10.2010	27742
Geology and Seismicity		
Regulation on Buildings to be Constructed within the Seismic Zones	06.03.2023	26454
Nature Conservation		

Regulation	Official Gazette Date	Official Gazette Number
National Parks Law	2873	09.08.2023
Hunting Law	4915	01.07.2023
Forestry Law	6831	05.06.2023
Community Health and Safety		
Public Health Law	Law No: 1593	1930
Labor and Working Conditions		
Occupational Health and Safety Law	Law No: 6331	2012
Regulation on Contractors and Sub-contractors	27010	27.09.2008
Labor Law (No. 4857)	25134	10.06.2003
Stakeholder Engagement		
Laws on Right to Information (No. 4982)	29186	25.11.2014
OHS		
Regulation on Occupational Health and Safety Risk Assessment	29.12.2012	28512
Regulation on Emergencies at Workplaces	18.06.2013	28681
Regulation on Occupational Health and Safety Services	29.12.2012	28512
Regulation on Health and Safety Conditions in the Use of Work Equipment	25.04.2013	28628
Regulation on Health and Safety Signs	11.09.2013	28762
Regulation on Occupational Hygiene Measurement, Test and Analysis	27.01.2023	32086
Regulation on the Vocational Training of Persons to be Employed in the Hazardous and Very Hazardous Classes	13.07.2013	28706
Regulation on Duties, Authorities, Responsibilities and Trainings of Occupational Physicians and Other Health Personnel	20.07.2013	28713
Regulation on the Procedures and Principles of Employing Child and Young Workers	06.04.2004	25425
Regulation on Preventing Major Industrial Accidents and Reducing Their Effects	02.03.2019	30702

2.1.2 International Standards

Since the TKYB is the lender, the activities of the facility must be in compliance with good international industrial practices including IFC PSs, WBG EHS Guidelines, TKYB's E&S Policy and best practices documents alongside the National EHS Legislation.

IFC has established Environmental and Social Performance Standards to define its customers' responsibilities for managing their environmental and social risks. During the investment and operation periods, the borrower must comply with these standards. IFC Performance Standards (2012) ("IFC PSs") are listed below:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labor and Working Conditions
- PS3: Resource Efficiency and Pollution prevention
- PS4: Community Health, Safety, and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Management of Living and Natural Resources
- PS7: Indigenous Peoples
- PS8: Cultural Heritage

Moreover, in August 2016, the new environmental and social policies called the Environmental and Social Framework (ESF) has been adopted by the World Bank. The ESF enhances the World Bank's commitment to sustainable development through ten (10) Environmental and Social Standards (ESSs) that are designed to support Borrowers' E&S risk management. The ESF enables Borrowers to better manage project risks as well as improve environmental and social performance, consistent with good international practices[3]. The ESSs, which are similar with the IFC's PSs, are listed below:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts
- ESS2: Labor and Working Conditions
- ESS3: Resource Efficiency and Pollution Prevention and Management
- ESS4: Community Health and Safety
- ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
- ESS8: Cultural Heritage
- ESS9: Financial Intermediaries
- ESS10: Stakeholder Engagement and Information Disclosure

Other guidelines and principles are as follows:

- WBG General EHS Guidelines (2007)
- WBG EHS Guidelines: Metal Plastic and Rubber Products Manufacturing (2007)
- Equator Principles IV (2020).

Moreover, TKYB announced its perspective on the continuation of environmental and social sustainability and reducing and managing the negative effects and risks arising from its activities, with the TKYB Environment and Social Policy dated January 2020. The policy is based on this policy in all services and activities financed by the Bank. In addition, the "Environmental and Social Risk Assessment Procedure in the Lending Process", which was prepared to evaluate the environmental and social risks of the requested loans and to ensure that the issue is managed effectively in line with the Bank's strategy, is applied for each project.

[3] Environmental and Social Framework, retriewed 07.06.2023 from the official web site of the World Bank https://www.worldbank.org/en/projects-operations/environmental-and-social-framework

3. ROLES AND RESPONSIBILITIES

All environmental and social commitments described in the ESMP will be performed by the General Manager, Facility Manager, Human Resources Department, Quality Department, and Occupational Health and Safety (OHS) Specialist of the Facility. The general organization structure for Implementation of the ESMP is summarized in Table 2.

Table 2. General Organization Structure for Implementation of ESMP

Roles	Responsibilities
General Manager	• Overall responsibility for the implementation • Ensure that the facility complies with the provisions of International Finance Institutions described in ESMP
Facility Manager	• Ensure that ESMP provisions are implemented to mitigate environmental and social impacts • Undertake monitor of the implementation of the ESMP • Prepare quarterly or semi-annual environmental and social monitoring reports for submission to the Lenders
Human Resources Department	• Ensure that all workers, participate in training sessions on ESMP. Maintain a record of training and conduct of awareness sessions for staff to ensure compliance with environmental and safety commitments stated in ESMP • Prepare quarterly or semi-annual environmental and social monitoring reports for submission to the Lenders • Undertake monitor of the implementation of the ESMP • Adopt and implement Stakeholder Engagement Plan • Establish an official worker and public grievance mechanism
Quality Engineer for Environmental, Health, and Safety **Occupational Health and Safety (OHS) Specialist**	• Oversee and monitor adherence to, and implementation of the ESMP to ensure that an environmental management system is set up and functions properly • Ensure that the facility specifications adequately reflect the recommendations of the ESMP • Visit and inspect facility area regularly, to ascertain the level of compliance of works and report back environmental issues • Prepare quarterly or semi-annual environmental and social monitoring reports for submission to the Lenders
Project Workers	• Attend induction training that is provided to introduce the environmental duties under the ESMP

4. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

4.1 Air Quality Management

Within the scope of Regulation on Environmental Permit and License, the facility activity taken part in Annex-2 (3.15 Facilities that produce warehouses, tanks, tankers, containers, doors, machinery and similar from metal sheet with a raw material capacity of 3 tons/day or more) was exempt from all environmental permits (environmental noise, wastewater discharge and air emission) by the decision dated 03.03.2022 of Manisa Provincial Directorate of EUCC. However, later on, due to changes in process and capacity, it has been found appropriate to give a Temporary Activity Certificate on Air Emission issues with the letter of Manisa Provincial Directorate of EUCC dated 30.03.2023 (see Appendix-6). It should not be forgotten that this Temporary Activity Certificate is valid until 31.03.2024 and environmental permit and license application must be made within 180 calendar days (until 27.09.2023). Before September 2023, VERGO is required to submit the Emission Measurement Report on air emissions as specified in the Annex-3C of Regulation on Environmental Permit and License to the Manisa Provincial Directorate of Environment, Urbanization and Climate Change. In the next steps, after the competent authority examines the relevant information and documents within 60 days, if it detects a deficiency, it will give the company an additional 90 days, and if it is found appropriate, an Environmental Permit will be issued.

In the facility, there is a dust collection system connected to the zinc coating and pipe production line and two chimneys connected to it. In other words, two emission sources exist. There are no uncontrolled emission sources. Besides, there has been no emission/confirmation measurement performed at the facility yet.

The points to be considered against possible air emissions that may occur during the operation phase of the project are given below:

- Emission measurements should be carried out in accordance with the Regulation on Environmental Permit and License and Regulation on the Control of Industrial Air Pollution for all emission sources to be found in the facility.
- Emission concentrations, mass flow rates, flue gas velocity and chimney heights must meet the limit values specified in the Regulation on the Control of Industrial Air Pollution and the World Health Organization (WHO) Environmental Air Quality Guide Limit Values.
- Exhaust emissions of all vehicles used in the facility will be regularly measured by authorized institutions and it should be documented that they meet the limit values determined for exhaust emissions.
- Consumption records of all chemicals used should be kept, and necessary precautions should be taken to minimize the amount of use periodically.
- Environmental Permit Certificate on Air Emission must be obtained before the Temporary Activity Certificate expires. The environmental permit must be renewed during the activity period before its validity period expires.
- Periodic inspections of all tools and equipment should be made.
- Indoor/occupational hygiene measurements will be carried out periodically.
- All activities to be carried out during the operation phase must comply with national legislation and international standards.

4.2 Water and Wastewater Management

The facility owner employs 196 staff 6 (5 women in total, all white collar) in the facility along with 26 personnel belonging to the subcontractors, which offers services in the areas of security, cleaning, catering and maintenance/repair.

Mains water provided by Salihli OIZ is used for the staff utilization. It is known that the drinking water analyzes are carried out once in every four (4) months by Salihli OIZ. Moreover, drinking water is provided from bottled water.

Daily water usage per capita is considered as 216 lit/person.day according to TUIK (2020). The amount of water used per day is calculated as 42,336 lit/day (42.33 m^3/day) during the operation phase of the Facility.

There is no water use in the industrial processes. On the other hand, Boron oil is used as cooling liquid.

Wastewater generated only from the domestic activities is discharged to Salihli OIZ canal in line with the "Wastewater Connection Permit". Throughout the OIZ, wastewater and rainwater are collected separately. There is a "Rainwater Discharge Connection Permit" of the facility.

The water requirement during operation phases of the project, the quantity of wastewater generated and the disposal methods are summarized in Table 3.

Table 3. Water Usage Areas, Quantities and Disposal Type

Period	Purpose of Use	Supply	Requirement (m^3/day)	Wastewater (m^3/day)	Disposal
Operation	Domestic	Salihli OIZ	42,33 m^3/day	42,33 m^3/day	Wastewater generated only from domestic activities is discharged into Salihli OIZ canal in line with the "Wastewater Connection Permit".
	Process	-	0	0	-
TOTAL			**42,33 m^3/day**	**42,33 m^3/day**	

Table 4 represents the wastewater discharge limit values to wastewater infrastructure facilities of the Regulation on Water Pollution Control.

Table 4. Wastewater Discharge Standard to Wastewater Infrastructure Facilities According to Regulation on Water Pollution Control

Parameter	Sewage Systems Wastewater Infrastructure Facilities Resulting In Biological Or Equivalent Treatment (2 Hour Composite Sample)
Temperature (˚C)	40
pH	6 -10
Total Suspended Solid (mg/L)	500
Oil and grease (mg/L)	150
Tar and petroleum based oils (mg/L)	50
Chemical Oxygen Demand (mg/L)	1000

Parameter	Sewage Systems Wastewater Infrastructure Facilities Resulting In Biological Or Equivalent Treatment (2 Hour Composite Sample)
Biochemical Oxygen Demand (BOD_5) (mg/L)	-
Total Nitrogen (N) (mg/L)	100*
Total Phosphorus (P) (mg/L)	10*
Phenol (mg/L)	20
Sulfate ($SO_4^{=}$) (mg/L)	1700
Arsenic (As) (mg/L)	3
Total lead (Pb) (mg/L)	3
Total mercury (Hg) (mg/L)	0.2
Total cadmium (Cd) (mg/L)	2
Total cyanide (CN^-) (mg/L)	10
Total chrome (Cr) (mg/L)	5
Free chlorine (mg/L)	5
Total sulphur (S) (mg/L)	2
Total copper (Cu) (mg/L)	2
Total nickel (Ni) (mg/L)	5
Total zinc (Zn) (mg/L)	10
Total tin (Sn) (mg/L)	5
Total silver (Ag) (mg/L)	5
Chloride (Cl^-) (mg/L)	10000
Surfactants (MBAS) (mg/L)	Discharge of substances that do not comply with the standards of the Turkish Standards Institute (TSE) for biodegradation is prohibited.

Issues related to the management of water use and wastewater generated during the operational activities of the facility are given below:

- The limit values determined by the Water Pollution Control Regulation and the OIZ, if any, should not be exceeded in wastewater discharge into the channel.
- Since the facility is located within the boundaries of the OIZ, no discharge will be made to the receiving environment, and activities will continue, provided that the necessary permits are obtained within the framework of the OIZ's own internal regulations and rules.
- All chemicals used in the production phase should be added in order to avoid significant changes in wastewater characteristics.
- The sewage system of the facility should be cleaned at regular intervals.
- The rainwater system of the facility should be maintained and cleaned at regular intervals to prevent possible overflows.
- In order to minimize the generation of waste water and pollution loads, the production processes should be carried out considering the best available techniques.
- Rainwater should not be mixed with wastewater.

4.3 Waste Management

Wastes to be generated within the Facility consist of domestic wastes, packaging wastes (paper, plastic, glass, metal, etc.), process wastes, and hazardous wastes generated by the workers who work during the operation phase and the operational activities.

Table 5. Waste Types Generated and their Management Methods

Waste Code	Waste Type	Description (-/ M /A)	Disposal Recovery Method
20 03 01	Mixed Municipal Waste	-	-
20 01 01	Paper and Cardboard	-	R12
20 01 39	Plastics	-	R12
20 01 40	Metals	-	R12
15 01 01	Paper and cardboard packaging	-	R12
15 01 02	Plastic packaging	-	R12
15 01 03	Wooden packaging	-	R5
17 04 02	Aluminum		R12
20 01 21*	Fluorescent lamps and other mercury-containing waste	A	R13
20 01 33*	Batteries and accumulators under 16 06 01, 16 06 02 or 16 06 03 and unclassified mixed batteries and accumulators containing these batteries	A	R13
20 01 35*	Discarded electrical and electronic equipment containing dangerous parts other than those mentioned in 20 01 21 and 20 01 23	A	R13
18 01 03*	Wastes whose collection and disposal are subject to special treatment in order to prevent infection	A	D9
13 01 13*	Other hydraulic oils	A	R9
16 01 07*	Oil filters	A	R4
12 01 09*	Halogen-free processing and solutions	A	R2
12 01 18*	Metallic slurries containing oil (grinding, sharpening and milling residues)	M	R4
15 01 10*	Packaging containing residues of dangerous goods or contaminated with dangerous substances	A	R12
15 01 11*	Metallic packagings containing dangerous porous solids (e.g. asbestos), including empty pressure containers	A	R4

Waste Code	Waste Type	Description (-/ M /A)	Disposal Recovery Method
15 02 02*	Absorbents, filter materials (oil filters unless otherwise specified), cleaning cloths and protective clothing contaminated with dangerous substances	M	R12

Mark (*): *Hazardous waste*
Mark (A): *Indicates that the waste is a definite hazardous waste. Wastes marked in this way are classified as strictly hazardous without analysis.*
Mark (M): *Indicates that the waste is a potentially hazardous waste. In order to determine whether the wastes marked in this way are dangerous or not, a study is carried out to determine the hazardous properties of the waste stipulated in Article 11 of the WMR.*
Note: *This waste list will be updated if an unexpected waste occurs during the operation phase.*

Issues related to the management of hazardous and non-hazardous wastes generated during the operational activities of the facility are given below:

- Waste management activities should be carried out in accordance with the issues specified in the Waste Management Plan prepared within the scope of the project.
- There is Industrial Waste Management Plan (IWMP) belonging to the facility. Based on the announcement made by the Ministry of Environment, Urbanization and Climate Change General Directorate of Environmental Management on 12.01.2023, IWMP should be available at the facility since the facility is exempt from the Environmental Permit and License Regulation. The IWMP should be revised if there are any changes throughout the facility.
- Hazardous wastes should be stored separately from non-hazardous wastes, and the wastes should be collected regularly from the point where they are generated. The resulting hazardous wastes should be stored separately in the hazardous waste temporary storage area according to the waste codes for a maximum of 180 days, excluding medical wastes, and delivered to licensed companies. Non-hazardous wastes can be stored temporarily for a maximum of one year.
- Recyclable wastes such as packaging wastes should be temporarily stored in the section of the Temporary Waste Storage Area, which will be separated from other wastes and created at the facility, reserved for packaging wastes.
- Domestic wastes should continue to be collected from the field by the OIZ, and other recyclable wastes such as packaging waste should be delivered to licensed companies and sent for recycling. The shipment of hazardous waste should continue to be carried out through the Mobile Waste Tracking System (MoTAT) application, which is the online system of the Ministry of Environment, Urbanization and Climate Change. All waste management activities must be carried out in accordance with national legislation.
- The project owner submits the Integrated Environmental Information System (ECBS), which is the online system of the Ministry of Environment, Urbanization and Climate Change, starting from January every year and until the end of March at the latest, including the waste declaration form regarding the waste generated at the facility, with the information of the previous year. It must be filled out, approved, printed, and retained for five years.
- Medical wastes should be stored separately from other wastes in the hazardous waste storage area. Medical wastes can be kept in the medical waste temporary storage or container for no more than 48 hours before being transported to the medical waste processing facility. The waiting period can be extended up to one week, provided that the temperature in the medical waste temporary storage is +4 °C and the capacity is appropriate. The specified times must be acted upon.

4.4 Noise and Vibration

The facility is exempt from the environmental permit on environmental noise within the scope of the Environmental Permit and License Regulation (Amended RG: 23.02.2023-32113) published in the Official Gazette dated 10.09.2014 and numbered 29115. The Project Facility do not and will not create any risk in terms of environmental noise pollution.

It is recommended to take the following precautions regarding noise within the scope of the facilities.

- Noisy areas should be marked.
- If necessary, an acoustic enclosure should be provided for the machines or acoustic insulation of the area should be provided.
- The traffic originating from the facility (shipping) should not pass through residential areas as much as possible.

Indoor Noise Measurements

Indoor noise measurements will be carried out periodically in order to detect the noise that will arise from the operation of machinery-equipment in the facility and to take the necessary precautions. The measures to be taken by the project owner within the scope of the "Regulation on the Protection of Employees from Risks Related to Noise", published in the Official Gazette dated 28.07.2013 and numbered 28721, for possible noise to occur in the facility are as follows:

- If possible, methods with less exposure to noise should be chosen in terms of working method.
- Appropriate work equipment that emits the lowest possible noise level according to the work done should be selected.
- Training should be given on the correct use of machinery-equipment.
- Periodic maintenance of machinery-equipment should be done.
- Exposure time and level should be limited.
- Adequate rest and working periods should be arranged.

If the employee's exposure to noise cannot be controlled by these measures, the following should be followed:

- The project owner should have ear protection equipment available for workers when the worker's exposure to noise exceeds the lowest exposure action values (80 Decibels (dB(A))).
- The project owner should ensure and supervise the use of hearing protection equipment by workers when the worker's exposure to noise reaches or exceeds the highest exposure action values ((85 dB(A)).

4.5 Soil and Groundwater

The possible impacts of the project on soil and groundwater assets will be as follows:

- Soil and groundwater pollution that may occur due to spills and leaks that may arise from the use, transfer and storage of chemicals,
- Soil and groundwater pollution from spills.

The NACE code of the project is “28 99 90: Manufacture of other special purpose machinery which are not elsewhere classified”.

According to NACE code, the facility is considered within the scope of “Potential Soil Pollutant Activities and Activity-Specific Pollution Indicator Parameters List” in Annex-2 of the Regulation on Control of Soil Pollution and Point Source Contaminated Sites, which was published in the Official Gazette dated 08.06.2010 and numbered 27605.

According to the same regulation, activity-specific pollutant parameters are TOX, TPH, Ag, Be, Cd, Cu, Hg, Ni, Pb, Se, Zn, As and Sn.

- Soil pollution should be prevented at its source.
- Wastes should not be dumped directly or indirectly into the soil in a way that will harm the soil.
- Wastewater should continue to be given to the OIZ infrastructure in line with the channel connection permit. Unauthorized wastewater discharge should not be made to the receiving environment under any circumstances.
- Dirty and clean soil should not be mixed.
- Spills must be contained on site and all contaminated materials, including soil, must be removed from the site for proper treatment and disposal.
- All personnel and subcontractors are required to report any spill-like incident to the authorities. Relevant personnel and subcontractors will be provided with training.
- In the event of a major spillage, site assessment studies should be carried out in the spill area and the monitoring requirement should be determined accordingly.
- Necessary precautions should be taken by considering the possibility of an accident in the activities or facilities where hazardous materials are used, stored, produced and in the facilities where wastes are produced, disposed of or recycled.
- Oil, fuel and chemicals should be stored in suitable storage areas with leak-proof floors and restricted access.
- Absorbent materials, oil pans and fire response equipment should be available in the project area for a possible leakage.
- Regarding soil pollution, this ESMP, Emergency Action Plan (CNR-PLN-VRG-EPRP-001), national legislation and project standards must be followed.

4.6 Biodiversity

The Project site is under the influence of the Mediterranean climate. According to the Corine[4]2018 Land Cover data, the Project site is located in a modified habitat (agricultural area (complex cultivation patterns; including arable land, vineyards and orchards)). The surroundings of the Project area are also composed of highly modified habitats (agricultural area and organized industrial zone).

[4]Coordination of Information on the Environment CORINE https://land.copernicus.eu/pan-european/corine-land-cover/clc2018

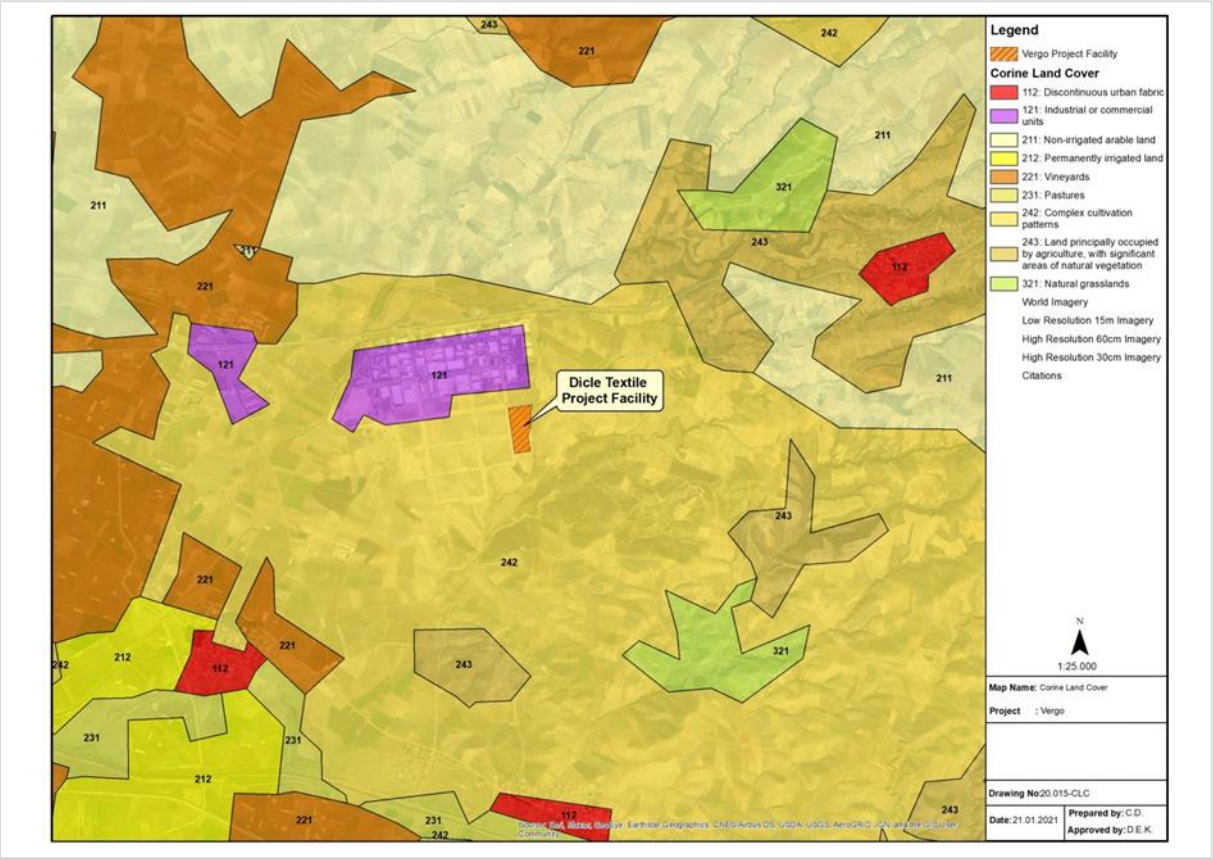


Figure 12. Habitats within the Region of VERGO

Since the facility is located in an agricultural area (land preparation has already started) and very close to the organized industrial zone, natural flora and fauna are unlikely to exist. The entire area where the facility is located is under anthropogenic influence.

The natural vegetation has been destructed by anthropogenic activities and has been replaced by cultivated plants. The herbaceous vegetation on the Project Site was not in good form, being quite degenerated.

The vast majority of the flora elements identified are widespread species for the Aegean Region. The region is located in the Mediterranean phytogeographical region.

The project site is not suitable for fauna because intense human activity in the area suppresses the spread of fauna species. There are one amphibian species; *Bufo viridis* (European Green Toad), three reptile species; *Testudo graeca* (Common Tortoise) *Lacerta trilineata* (Green Lizard) *Ophisops elegans* (Snake-Eyed Lizard) 11 bird species; *Buteo buteo* (Common Buzzard), *Falco naumanni* (Lesser Kestrel).*Streptopelia decaocto* (Eurasian Collared Dove), Upupa epops (Hoopoe), Alauda arvensis (Eurasian Skylark), *Passer domesticus* (House Sparrow), *Sturnus vulgaris* (Common Starling), *Garrulus glandarius* (Eurasian Jay), *Corvus corax* (Common Raven), *Corvus cornix* (Hooded Crow), *Pica pica* (Eurasian Magpie), six mammal species; *Erinaceus concolor* (Hedgehog), *Crocidura leucodon* (Bicolored Shrew), *Lepus europaeus* (European Hare), *Rattus rattus* (Black Rat), *Vulpes vulpes* (Red Fox), *Mustela nivalis* (Least Weasel) spreads in the Project Area and its surrounding.

It has been determined that these species are also present in areas outside the project area and are alternative areas that will survive. The species consist of species that do not need special habitats and have a fairly wide distribution in Turkey.

Among the flora and fauna species, there are no endemic, rare, endangered (CR-EN) species according to the IUCN Red List and species should be protected by international conventions (Bern, CITES). As a result, there are no important or critical habitats in terms of flora and fauna species in the Project site.

As a result of intense anthropogenic pressure in the region, flora and fauna distribution is limited in the project area. The flora and fauna species are not under any threat due to the activities and will not be damaged.

Nationally Protected Areas within the Surrounding of the Project site

There are no protected areas, key biodiversity areas and wetlands within the scope of the legislation of the General Directorate of Nature Conservation and National Parks in the Project site. However, there is one Nationally Important wetland within the Surrounding of the Project site.

Gölmarmara Lake Wetland is a set lake located between Salihli and Gölmarmara districts of Manisa. It is a slightly salty alluvial freshwater lake located in a closed basin, fed by small streams and groundwater.

The south of Marmara Lake is surrounded by agricultural fields and gardens and the north is surrounded by red pine and oak forests. There are wide reeds, wet meadows and mudflats on the northern shores. These reeds are feeding and breeding areas for a significant population of waterfowl. Wetland, which has an area of 25.000 ha, is located 20 km from the project site.

Internationally Recognized Areas within the Surrounding of Project site

Internationally Recognized Areas are located in the surroundings of the Project site. These areas include Key Biodiversity Areas (KBA). KBAs are the most important areas in terms of their characteristics in terms of supporting biological components. There are 2 internationally recognized areas in the region of the Project site.

Marmara Lake KBA Surrounded by hills to the north and north-east, with Gediz valley to the south and Akhisar valley to the north-west. Flood-plains are used for growing cotton, and cattle-grazing is widespread on the marshes.

This is an important area for breeding and wintering waterfowl. Dalmatian Pelican (*Pelicanus crispus*), Spur-Winged Lapwing (*Vanellus spinosus*), Ferruginous Duck (*Aythya nyroca*) and Squacco Heron (*Ardeola ralloides*) are important waterfowl breeding in the area. KBA hosts significant wintering populations of species such as Eurasian Wigeons (*Anas penelope*), Common Pochard (*Aythya ferina*), Pied Avocet (*Recurvirosta avosetta*), and Dalmatian Pelican (*Pelicanus crispus*). KBA, which has an area of 6912 ha, is located 24,5 km from the project site.

Bozdağlar KBA Bozdağlar is a mountain mass between the plains formed by Gediz and Küçük Menderes rivers. Boz Mountains is the largest mountain range in the Aegean region. Kelebek, Keleş, Alaşehir, Medet, Şahyar and Derbent streams are the most important water sources in the KBA. Rising above 2,000 meters above sea level, this large mountain mass contains many plant communities unique to the Mediterranean, as well as some plant species belonging to the Euro-Siberian plant geography.

Similar to other mountains in the region, the maquis areas dominated by the Kermes Oak (*Quercus coccifera*) contain red pine forests, and at higher heights include oak and larch

forests. There is a small lake in the central part of the mountain, and natural chestnut communities are found in suitable areas in this region.

Bozdağlar KBA is one of the best-studied areas of the region in terms of plants. There are many endemic plant species in the region. 38 plant taxa in the area provide KBA status. The world distribution of *Anthemis xylopoda, Chionodaxa luciliae, Hieracium tmoleum* and *Omithogalum improbum* is limited to the Bozdağlar KBA.

The area is important for birds of prey and forest birds. The species of birds breeding in the KBA include Long-Legged Buzzard (*Buteo rufinus*) and Short-Toed Eagle (*Circaetus gallicus*). Roe deer (*Capreolus capreolus*) is one of the most important mammal species in the Mediterranean and Aegean regions.

Southern Crested Newt (*Triturus karelinii*) is an important amphibian species in the area. In the KBA, there are also species of Apollo (*Parnassius apollo*) Green-Underside Blue (*Glaucopsyche alexis*) and Vicrama Blue (*Pseudophilotes vicrama*).

KBA, which has an area of 236126 ha, is located 3.5 km from the project site.

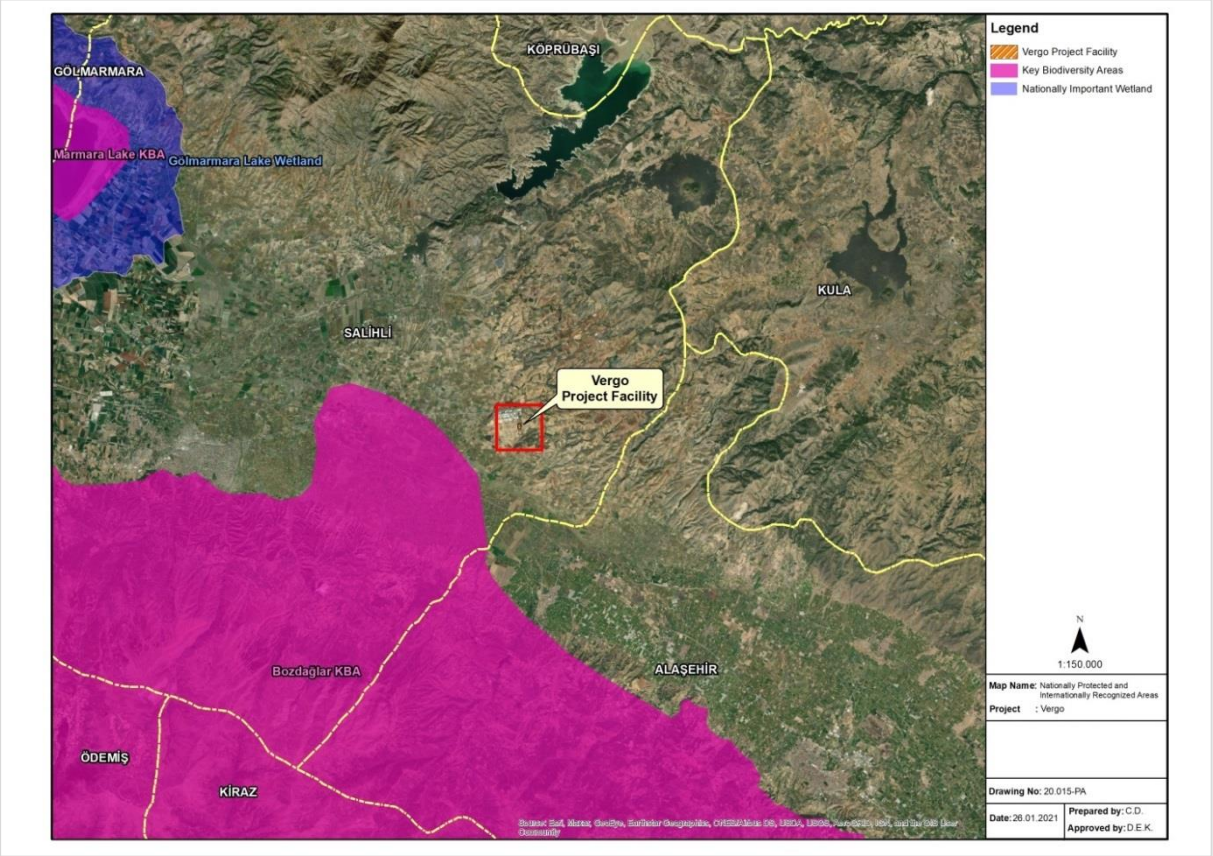


Figure 13. Nationally Protected Areas and Internationally Recognized Areas

Nationally Protected and Internationally Recognized Areas are located a long distance from the project area. However, since the activities to be carried out are limited to the project area, the Nationally Protected and Internationally Recognized Areas are not under any threat due to the activities and are not expected to be damaged.

4.7 Cultural and Natural Heritage

The facility has no activities or impacts on areas that may pose a threat to the cultural and natural heritage in the current situation.

Within the scope of the project, there is no study conducted to determine the presence of movable or immovable, and/or intangible cultural heritage items. If the areas expressed in PS8 are identified in the future through incidental findings and/or specific research, institution opinions and literature reviews, the relevant management plans will need to be revised in accordance with PS8.

As a recommendation, necessary trainings related to socio-cultural aspects and code of conduct should be inserted into annual training program in order to prevent cultural conflicts and conserve values in terms of intangible part of cultural heritage.

4.8 Occupational Health and Safety

- The weekly field visit hours to be conducted by the OHS expert assigned by the JHSU (Joint Health and Safety Unit) for VERGO company should be arranged as follows:
  - At least 4 days per week, with each visit lasting a minimum of 5 hours.
  - The calculated visit hours must not fall below the legal requirement. In the event that the condition stated above falls below the legal limit, it must be promptly updated.
- In addition to legal requirements, support for the enhancement of OHS management practices will be provided through the recruitment of a full-time OHS specialist with sufficient qualifications, skills, and experience within the Company.
- All personnel working in VERGO Energy Systems and the VERGO Site are obliged to comply with all occupational safety rules determined by laws and procedures, to use the personal protective equipment given to them according to the specified methods and to wear work clothes.
- All sequential department supervisors are primarily responsible for ensuring that the work carried out in their areas of responsibility is carried out under safe conditions, supervising, stopping the work when necessary, and performing corrective actions.
- Basic Occupational Health, Occupational Safety, Environmental Awareness and Management of Environmental Activities and Basic Fire Safety Training, which includes general occupational health and safety, environmental principles, fire safety and practices on this subject in VERGO field, workplace environment risks, for every new personnel and interns, VERGO The OHS Team in Energy Systems is given by Class B Occupational Safety Specialist at İş Medikal JHSU.
- In the event that the risk or regulation that is the subject of the warning sign disappears by supplying all kinds of warning signs in the department and placing them in appropriate places, it is the responsibility of the operating authority to remove this sign and send it to the Material Warehouse.
- The relevant business manager and the OHS Board decide together on the format of the plates and signs in VERGO Energy Systems, they are hanged at the places deemed appropriate by the decision
- VERGO Energy Systems Business sin also duly periodic check of course all kinds of machinery and equipment (fire equipment, ventilation systems, pressure vessels / tanks, winch, electro cranes, hoists, hoist, man lifts, personnel and cargo elevator, forklift periodic checks are made by all relevant departments in accordance with the

legislation. A copy of the forms in which these controls are recorded are filed in the company official, the original in the OHS Unit or the relevant department. The follow-up responsibility for the completion of the deficiencies identified in these controls rests with the management.

- Work Equipment and Fire Installation at the VERGO Site are periodically inspected by the Occupational Safety Specialist and the report results are kept.

Occupational health and safety hazards and risks relevant to the Facility operations include common (i.e., common for most of the manufacturing facilities) ones such as electrical hazards, hazards related with manual handling, traffic related risks etc. and process / sector specific ones such as;

- Physical injuries such as crushed body parts from metal forming operations,
- Cuts, abrasions, and puncture wounds from metal cutting tools and machines,
- Exposure to VOCs (Volatile Organic Compounds) from painting operations,
- Exposure to high temperatures and unsafe levels of noise, and
- Exposure to metal dust and fumes.

In this section, measures, practices, implementations and managerial actions to eliminate, or whenever not possible, to reduce these occupational risks and impacts are presented in relevant sub-sections.

Occupational Health and Safety Risk Assessment

Occupational Health and Safety risk assessment implementation and details of the implementation are defined by the Risk Assessment Procedure of VERGO. According to the procedure, which is in line with the Project Standards requirements, the risk analysis and relevant assessments shall be reviewed and updated whenever;

- Moving facilities or changes in the buildings.
- Changes in the technology, materials and equipment used in the facilities.
- Changes in the production method.
- Occurrence of work accident, occupational disease or near miss.
- There is a legislative change regarding the limit values of the working environment.
- When necessary according to the results of workplace measurement and health surveillance.
- Every 4 years when a new hazard arises from outside the workplace and may affect the workplace.
- Periodically every 4 years.

After identification and assessment of the risks, below mentioned risk management / control hierarchy shall be used:

- Elimination of the hazards - physically removing the source of the hazard.
- Substitution of the hazards – replacing the hazard by using less dangerous processes, operations, materials or equipment.
- Engineering Controls – isolating workers from the hazard by using engineering controls.
- Administrative Controls – changing the way people work, for instance, limiting the time a worker is exposed to a hazard.
- PPE – as the least efficient and final option; usage of adequate and appropriate PPE.

In the current situation, risk assessment documents are up to date as of the date of May 2023. In this risk analysis report, hazards, risks, and precautionary measures have been identified and are subject to updates as necessary. The risk assessment documents have been prepared for determination occupational health and safety hazards and risks, including

risks related with the Covid-19 outbreak, and identification of relevant measures for the activities carried on below workplaces / departments / sections:

- Pipe and Profile Machines
- Tape Slitting Machines
- Straightening and Deburring Machines
- Crowbar Machine
- Roll Hall
- Shipping and Product Stacking Areas
- Office
- Pressure Tubes and Vessels
- External factors
- Electrical Maintenance Workshop
- Non-Operational Areas
- Mechanical Maintenance Workshop
- Infirmary
- Sheet Metal Cutting Machines
- Band Circular Saw Machines
- Social facilities
- Machining Workshop
- Saw Sharpening Machine

Occupational Accidents and Near Misses / Assessment

All these Accident and Near Loss reports will form one of the agenda items of the OHS&E Board. In addition, the causes and results of accidents will be shared with the employees by reporting monthly and annual periods.

Events encountered during an accident or near loss will be evaluated, and if necessary, the effectiveness of risk assessments and environmental impact assessments will be discussed and revisions will be made.

After every workplace accident, Root Cause Analyses are conducted. The behavior or condition that caused the accident is identified.

If the "Condition" is the cause of the accident, improvement measures are implemented within the company to eliminate the hazard. If the cause of the accident is "Behavior," training sessions are reiterated to prevent the recurrence of incorrect behaviors.

Training

Basic Occupational Health and Safety Training for the employees working at VERGO Energy Systems Factory will be provided by the OHS Unit.

Training to be given Training Procedure within the scope of Educational Process Flow Diagram in accordance with the Annual Training Plan is prepared.

The main topics of these trainings are:

VERGO Energy Systems Business;

- Information on labor legislation,
- Legal rights and responsibilities of employees,
- Workplace cleanliness and order,
- Biological and psychosocial risk factors,
- Disease prevention principles,

- First aid,
- Causes of occupational diseases,
- Damages of tobacco products,
- Fire protection,
- Evacuation and Rescue,
- Safe use of work equipment,
- Safety and Health Sign
- Electrical dangers and risks
- Use of Personal Protective Equipment
- Pandemic Covid-19 and similar communicable diseases

Informational training sessions on WB Standards should also be added to the training plan and provided regularly as part of the training program.

In addition, following each workplace accident, an informative training session will be conducted for all employees, encompassing the insights obtained from the root cause analysis of the accident. Furthermore, employees who have experienced workplace accidents will receive pre-job training and specific training related to the causes of the accidents before resuming their duties.

4.8.1 Daily Site Inspections

Daily site inspections shall be performed by Internal Auditors. Internal Auditors are workers designated to each production line, section, department etc., who are trained by OHS Team with the purpose of continuously inspecting and controlling the workplace environment and workers' behaviors within the scope of safety during daily routine. In case of identification of an unsafe situation and/or behavior, Internal Auditors have specific responsibilities to warn others and to inform the OHS Team.

4.8.2 Weekly and Monthly Site Inspections

Weekly and monthly site inspections shall be performed by OHS Team with the purpose of identification of possible hazards, risks, unsafe conditions and behaviors.

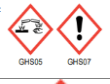
4.8.3 External Audits

External audits shall be performed every six months by the independent consultancy company to inspect and monitor the implementation of this OHSMP, as well as the Environmental and Social Management Plan.

4.9 Hazardous Material Management

Secondary containment such as drip trays are used for chemical storage and IBC tanks. Chemical inventory list of the facility is given in Table 6.

Table 6. Chemical Inventory List

Name	Brand	Storage Area	Usage Area	Type	Impact	Maximum Quantity	Danger Symbols
Mixture Gas (KD205, KD212, KD220)	KAVAS	Full Tube Storage Area	Production	Gas	No data.	150 lit	
Oxygen Gas	KAVAS	Full Tube Storage Area	Production	Gas	No negative effects	100 lit	
Propan	KAVAS	Full Tube Storage Area	Production	Gas	Easily flammable. Explosive. Toxic.	50 lit	
EMULCUT 4010_MSDS_TR_CLP	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	No data.	1000 kg	No data.
HIGHCOOL 1020 BF	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	Very toxic to aquatic life with long lasting effects. Corrosive.	2000 kg	
HIGHFORM 1005	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	Corrosive, harmful.	1000 kg	
ISOLUBE V 73-5	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	Carcinogenic	750 kg	
ISOLUBE V 75 2_MSDS_TR_CLP	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	Carcinogenic	750 kg	
ISOLUBRIC VG 46_MSDS_TR_CLP	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	No data.	875 kg	No data.
WAYLUBRIC VG 68 NG	PERTOFER	Chemical Storage Area	Maintenance/ Production	Liquid	No data.	32 kg	No data.
Acik Cinko Spray	LEOX ENDÜSTRİ	Warehouse	Production	Liquid	Flammable, toxic, harmful,	80 lit	
Best Elite Spray Dye	BEST	Warehouse	Production	Liquid	Easily flammable. Explosive.	400 lit	

For the facility, it is required to make Major Industrial Accident Risk Reduction (BEKRA) notifications within the scope of the Regulation on the Prevention of Major Industrial Accidents and Reducing the Effects, which was published in the Official Gazette dated 02.03.2019 and dated 30702. In case of a change in the chemicals used in the facility, the BEKRA notification should be renewed.

4.10 Emergency Management

Possible emergencies that could arise during project activities - either directly related to the project operations or due to natural disasters - are outlined below:

- Fire
- Earthquake
- Flood
- Storm
- Adverse Weather Conditions
- Explosion
- Occupational Accidents
- Environmental Pollution and Chemical Incidents
- Sabotage, Terrorism
- Armed Robbery
- Kidnapping/Hostage Taking
- Strike
- Emergency Situations related to Pandemics and Infectious Diseases such as Covid-19, etc.

The Emergency Action Plan (EPRP) will contain detailed information about the following key elements:

Current national legislation and international standards.

Responsibilities of personnel in emergency situations.

Identification of potential emergency situations and scenarios.

Preventive measures and emergency response methods established for potential emergency situations.

Employee training on EPRP requirements to ensure effective response to emergencies.

Drills organized for employees to enhance awareness and ensure effective response to emergencies.

Contact information for local government authorities.

Addresses and contact information for healthcare facilities to be visited in emergencies.

In case of any changes that may affect or lead to new emergency situations in the workplace or its vicinity, the emergency response plan will be partially or entirely revised.

4.11 Labor and Working Conditions

Currently, the facility owner employs 196 staff [5](5 women in total, all white collar) in the facility along with 26 personnel belonging to the subcontractors, which offers services in the areas of security, cleaning, catering and maintenance/repair. Environmental Consultancy Service Procurement Agreement was signed on 08.08.2022. There is a proposal approval dated 04.01.2023. In terms of Occupational Health and Safety, a contract has been signed

[5] 23 white collars, 1 of whom is disabled whereas 173 blue-collar men, including 4 disabled.

within Joint Health and Safety Unit (“OSGB”) with “İŞ Medikal” company which has provided one occupational physician and one OHS specialist (Class B).

The Facility Owner employs 198 people, including 173 blue collars, two (2) interns, and 23 white collars. Five (5) of white-collar employees are female, while the remaining 18 male including one (1) disabled employee. There are no female employees in blue collars, and 4 out of 173 workers are disabled people. In addition, there are 26 people working as subcontractor staff in the facility. Two (2) of them, comprising one woman as a cleaner and one man as a baseman, are from CS Industrial Cleaning. Six (6) men are from Yıldırım Private Security, and eighteen (18) men are from Proservice Company. Meal delivery services are outsourced to Kimyon Home Cooking, who is responsible for providing catering. The agreement entails the provision of two (2) workers for the delivery of meals.

The management of labor and working conditions is executed by the Facility Owner utilizing HR Procedure and a set of corresponding directives. The delineation of the rights and responsibilities of workers is distinctly outlined in the mentioned procedure. Orientation training covers HR procedure informing.

The facility works in two (2) shifts (as 08:00-18:00 and 18:00-02:00).

4.12 Stakeholder Engagement and Grievance Mechanism

The Stakeholder Engagement Plan (SEP) has been prepared to guide the management of communication and interaction processes that need to be established during the crediting period among institutions, organizations, organizations, and other stakeholders who may be directly and/or indirectly affected by the Project, which is carried out by the Project Owner. Additionally, the SEP aims to contribute to minimizing the environmental and social impacts of the Project and increasing its positive effects through the effective participation of internal and external stakeholders.

The SEP is a living document and will be regularly monitored, reviewed, and updated by the Project Owner as necessary. Once approved by the Bank, this SEP will be published on the company's website. The transition from the construction phase to the operational phase of the project has brought about a natural transformation in the structure of the stakeholders with whom the operation interacts or will interact. In addition to this, the types of interactions have also changed. The need to update the SEP within the scope of the Project arises from this point.

This revised work for the Project's operational period, along with the Grievance Redress Mechanism (CRM), covers the information and disclosure methods and certain stakeholder engagement actions for stakeholders who may be directly or indirectly affected, positively and/or negatively, environmentally and socially, by the Project or other relevant parties interested in the Project.

Developed to encompass the Project's operational period, this SEP aims to comply with:

- The World Bank's Environmental and Social Standards under the international requirements,
- IFC Performance Standards,
- Local requirements such as the Constitution of the Republic of Turkey,
- The ESAP created by the TKYB and the Bank's Sustainability Principles.

4.12.1 Definition and Identification of Stakeholders

Internal stakeholders, or in other words, the primary stakeholders, are those who are affected by the Project or are highly likely to be affected, and they are considered as stakeholders of the Project. Facility employees, subcontractor companies involved in production and services within the facility, and employees of subcontractors are considered internal stakeholders.

External or external stakeholders are considered "other parties who may have an interest in the project." These can include raw material and service providers in the supply chain, buyers in the market, other companies operating in similar sectors in terms of production and/or sales, universities, non-governmental organizations (NGOs), and media organizations. Within the context of these definitions, the stakeholder list provided by VERGO is presented in Table 7.

In the Project, vulnerable groups that may exist among both internal and external stakeholders could face economic, educational, health, social, and cultural disadvantages. These groups can generally be classified as follows:

- Individuals and families with low incomes,
- Men and women with low levels of education and/or illiteracy,
- Men and women with physical and/or mental disabilities,
- Men and women in the older age group,
- Women who are heads of single-parent households,
- Minorities, refugees, and migrants.

For individuals within these groups, special and different communication methods may be required under the SEP. Therefore, disadvantaged groups should be considered in making printed and written documents inclusive, meaningful, and clear.

Table 7. Current Stakeholder List

Stakeholder Groups	Stakeholder Type	
	Affected	**Interested**
Local Communities		
• Neighboring facilities in Salihli Organized Industrial Zone • Neighboring Vocational Schools		**x**
Settlements		
Yeşilova, Torunlu, Durasıllı and Mersinli Neigbourhoods	**x**	
Supply Chain Firms	**x**	**x**
Potential Customers and Clients	**x**	**x**
Government / Authorities		
• Republic of Türkiye Ministry of Energy and Natural Resources • Republic of Türkiye Ministry of Industry and Technology • Republic of Türkiye Ministry of Labour and Social Security • Manisa Governorship • Salihli District Governorate • Manisa Provincial Directorate of Environment,Urbanization and Climate Change • Manisa Chamber of Commerce and Industry • Salihli District Directorate of Ministry of Health • Manisa Provincial Directorate of National Education • Organized Industrial Zones Superior Institute (OSBÜK)		**x**
Lender		

Stakeholder Groups	Stakeholder Type	
	Affected	Interested
• TKYB (Financial Intermediary) • World Bank	x	x
Municipalities		
• Salihli Municipality • Manisa Metropolitan Municipality		x
Employees	x	x

The establishment of Salihli OIZ dates back to 2005. It can be considered relatively new as of its establishment year. The expansion projects of Salihli OIZ may lead to a reduction in livelihood sources based on agriculture and animal husbandry in the region due to land acquisition. It is located near four (4) settlements and is approximately 17 km away from Salihli. The expansion projects of Salihli OIZ may lead to a reduction in livelihood sources based on agriculture and animal husbandry in the region due to land acquisition. VERGO is not directly responsible for the land acquisitions of the OIZ. However, if it invests in the expropriated areas, VERGO will be considered directly responsible.

4.12.2 Grievance Mechanism

As one of the tools for stakeholder engagement, the Grievance Redress Mechanism (GRM), which encompasses internal and external stakeholders under separate headings, serves the purpose of collecting Grievances, opinions, suggestions, feedback, and questions related to environmental and social impacts. The GRM covers information and disclosure methods for stakeholders directly and indirectly affected by the Project in environmental and social aspects, whether positively or negatively, as well as for other relevant parties who may have an interest in the Project.

GRM, internal and external stakeholders are categorized separately, covering processes related to work conditions, occupational health and safety, human resources management, training, and assessment. It involves recording, classifying, evaluating, responding to, and analyzing grievances, opinions, suggestions, feedback, and questions conveyed through printed forms, online documents, or other verbal/written communication methods for internal stakeholders. External stakeholders undergo similar processes through various methods within the external GRM. All procedures within the GRM are implemented similarly for both internal and external stakeholders.

Within the scope of the Project-specific SEP (CNR-PLN-VRG-SEP-001), the Stakeholder Action Plan presents stakeholders' relationship through information and disclosure methods. Within the framework of this mentioned action plan, the Grievance Redress Mechanism CNR-PLN-VRG-GRM-001: Grievance Redress Mechanism, along with information and disclosure methods, will be implemented for the identified stakeholders as detailed in the subsections.

5. TRAININGS

The responsibility of the Project Owner is at the forefront in the issues specified in Chapter 3, and it is important to provide training on environmental, social and OHS-related impacts that will arise from the project activities.

In this context, the trainings to be given to administrative staff and other employees should be as follows:

- Trainings to be given to parties with roles and responsibilities related to the implementation of the ESMP and all other sub-management plans,
- Environmental trainings on energy saving, resource efficiency, waste management, water use and wastewater,
- Trainings to be given to all personnel at a level that will explain the impacts and risks that the impacts of the project may create on the environment and public health,
- Basic OHS and introduction trainings.
- Trainings on stakeholder engagement and use of grievance mechanism.

6. MONITORING AND REPORTING

A monitoring program is established in order to monitor the compliance of Environmental and Social Management Plans with national legislation and international standards. In the Monitoring Program;

- New impacts, if any, arising from the project activities and their mitigation measures are determined.
- The management of the identified impacts arising from the project activities and the performance of the mitigation measures are monitored.
- The complaints of the stakeholders of the project and the resolution of these complaints are followed up.
- As a result of monitoring, nonconformities are reported and corrective actions are included in the reports.

The monitoring program of the ESMP is included in the relevant Sub-Management Plans. In the monitoring program; the target, frequency, key performance indicators, method and information of the persons responsible for monitoring are included and this program is prepared for each Sub-Management Plan and included in the plans.

Table 8. Environmental and Social Monitoring Plan

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
AQ-1	Air emissions	Prevention and minimization of environmental and community health related impacts of combustion gas, VOC, and dust emissions.	Regulation on Industrial Air Pollution Control limit values	Emission sources	Measurement	According to Regulation on Environmental Permit and License (Once in two years) when there is a change in the facility	Quality Engineer for Environmental, Health, and Safety
WMP-1	Waste Hierarchy	Prevention of landfilling and/or incineration (i.e., without energy recovery) of wastes (except medical wastes).	Zero waste (except medical waste) to landfill and/or incineration (i.e., without energy recovery) from all manufacturing and non-manufacturing activities / sites	All waste sources	Records of waste disposal	Annually	Quality Engineer for Environmental, Health, and Safety
WMP-2	Waste prevention and minimization	Prevention and/or minimization of hazardous wastes sourced directly from production lines / departments	Reduce or at least maintain quarterly.	All production lines / departments.	Waste generation records of each Internal Inspector / Group Leader	Quarterly	Quality Engineer for Environmental, Health, and Safety
WMP-3	Waste Prevention and Minimization	Enhancing its level through meeting requirements of Zero Waste Regulation as a supporting measure for waste prevention and	Obtaining Silver Zero Waste Certification and enhancing its level annually.	Facility	Waste records (for example: packaging wastes)	Annually	Quality Engineer for Environmental, Health, and Safety

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
		minimization.					
WMP-4	Trainings	Provision of WMP related trainings	100 % completion of each WMP training within their respective period	Facility	Records of trainings	Bi-annually	Quality Engineer for Environmental, Health, and Safety
WMP-5	Inspection	Performing on-site audits at Licensed Companies to inspect their compliance with waste management related Project Standards.	Once before contracting and annually afterwards for each Licensed Company	Licensed Company sites	Records of on-site visual / documentation inspections	Annually	Quality Engineer for Environmental, Health, and Safety
WMP-6	Corrective and Preventative Actions	Implementation of corrective and preventative actions identified through site inspections and temporary waste storage area inspections.	Closing 100 % within each quarter	Facility	Corrective & Preventative Action records	Quarterly	Quality Engineer for Environmental, Health, and Safety
WMP-7	The rate of sending waste to recycling	Ensuring that wastes are sent to recycling at the maximum level	Periodic increase in six (6) months	Facility	Waste records	Once in a month	Quality Engineer for Environmental, Health, and Safety
WMP-8	Internal and external complaints related to the waste and wastewater management of	Monitoring and recording of complaints related to the subject	Periodic decrease in the number of complaints for three (3) months	Facility, all stakeholders	Grievance records	Continuous	Quality Engineer for Environmental, Health, and Safety

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
	the project						
WMP-9	Wastewater Analysis	Performing wastewater analysis in the specified order, recording the analysis results, comparing the old results with the new ones	Compliance with discharge limits	The point where the wastewater is connected to the OIZ channel	Wastewater analysis	Once in a month	Quality Engineer for Environmental, Health, and Safety
WMP-10	Potable water analysis	Performing wastewater analysis in the specified order, recording the analysis results	Compliance with Regulation on Water Intended for Human Consumption and WHO limits	Facility	Potable water analysis	Once in a month	Quality Engineer for Environmental, Health, and Safety
OHSMP-1	Root Cause Analysis	Taking corrective and preventative measures through investigation and root cause analysis of accidents / incidents	Zero lost day	All sections / departments / production lines	• Records of investigation and root cause analysis • ASR calculation • AFR Calculation via	• Once a month • After the accidents/incidents	OHS Team
OHSMP-2	Near miss	Increasing OHS awareness by encouraging more near miss notification.	Increasing monthly number of near miss notifications month by month.	Project Site	Near miss records	Once a month	OHS Team
OHSMP-3	Trainings	Provision of Basic OHS related trainings	100 % completion of each OHS training within their respective period	Project Site	Records of trainings and certificates	• Once a month • At the onset of new employments	OHS Team

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
OHSMP-4	Trainings	Providing Training on WB Standards	Raising Awareness on WB Standards	Project Site	Annually Training Plan and training records	Annually	OHS Team
OHSMP-5	Trainings	Workplace Accident Awareness Training	Eradicating or Minimizing Hazards Leading to Workplace Accidents	Project Site	Training Records	• After the accidents/incidents • Customized Approach for Return-to-Work of the Injured Employee	OHS Team
OHSMP-6	Meetings	Conducting OHS related meetings	Performing 100 % of each OHS meeting within their respective period	Project Site	Minutes of meetings	Once in two months	OHS Team
OHSMP-7	Risk Analysis	Performing risk analysis and evaluation for identification of hazards and elimination of risks.	Performing risk analysis and evaluation for all departments annually.	All sections / departments / production lines.	Risk Analysis Reports	• At least once every two years • After each workplace accident or whenever needed	Risk Assessment Team
OHSMP-8	Emergencies	Conducting emergency drills.	Providing Information on Emergency Situations	Project Site	Drill records	Annually	OHS Team

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
OHSMP-9	Emergencies	Preparation of Emergency Action Plan	Providing Information on Emergency Situations	Project Site	Emergency Action Plan	• At least once every two years • Whenever needed	OHS Team
OHSMP-10	Corrective and Preventative Actions	Implementation of corrective and preventative actions identified through; • Near miss investigation & root cause analysis, • Accident / incident investigation & root cause analysis, • Risk analysis and evaluation, • Emergency drills, • Audits and inspection.	Closing 100 % within each quarter	Project Site	Relevant records	• Once six mounts	OHS Team
OHSMP-11	Audits and İnspection	Implementation of Daily, Weekly, and Monthly Basis Site Inspections	Completing Comprehensive Site Inspections on a Daily, Weekly, and Monthly Basis	Project Site	Audit records	• Daily, • Weekly, • Monthly	OHS Team
OHSMP-12	Corrective and Preventive Measures for Communicable Diseases such as Covid-19	Implementation of Corrective and Preventive Actions Identified through Inspections of Routine Control for	Closing 100% within each week	Project Site	Relevant records	Whenever needed	OHS Team

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
		Communicable Diseases like Covid-19					
EPRP-1	Number of Non-conformities	After regular inspections conducted by the relevant departments, the identification and reporting of discrepancies.	Zero Non-conformities	All sections / Departments	Inspections	Continuous	OHS Unit
EPRP-2	Drills/Exercises.	Conducting emergency preparedness drills.	Completion of one drill per year	All sections / Departments	Drill records	Annually	OHS Unit
EPRP-3	Drills/Exercises	Evacuating the facility in accordance with emergency procedures during emergencies and gathering at the designated emergency assembly area	Repeating emergency evacuation drills every six months.	All sections / Departments	Drill records	Every six months	OHS Unit
EPRP-4	Number of grievances related to Emergency Management	Recording of grievances	Zero grievances	All sections / Departments	Grievance records	Continuous	OHS Unit
EPRP-5	Action Plan	Taking action to eliminate potential emergency-causing hazards following grievances and suggestions	Non-hazardous working environment	All sections / Departments	Records	Continuous	OHS Unit

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
EPRP-6	Trainings	Providing necessary specialized training to emergency teams regarding emergencies	100%	All sections / Departments	Records and approval documents related to trainings	Annually	OHS Unit
EPRP-7	Employee Training on EPRP	Conducting training on EPRP	100%	All sections / Departments		Annually	OHS Unit
EPRP-8	Renewal of Emergency Action Plan within the scope of Occupational Health and Safety Law No. 6331	Updated EPRP	Updated EPRP every 2 years	OHS Unit	EPRP	Every 4 years	OHS Unit
EPRP-9	Keeping the Emergency Exit Evacuation Map up to date and displaying it on emergency boards.	Emergency boards should be appropriately placed in sufficient numbers.	Ensuring awareness among all employees.	All sections / Departments	The Emergency Exit Evacuation Map displayed on the boards.	Continuous	OHS Unit
EPRP-10	Emergency Team lists should be updated according to changing employee numbers.	The Emergency Team List should be kept updated when there are new hires or departures.	A 100% safe working environment	All sections / Departments	The Emergency Team List displayed on the boards.	Continuous	OHS Unit
EPRP-11	İnformative Training / Meeting	Providing informative training to employees after an incident or	A 100% safe working	All sections / Departments	Records	Continuous	OHS Unit

ID	Topic	Measure / Monitoring Parameter / Target	Performance Indicator / Target	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility
		accident that results in an emergency situation at the facility.	environment				

7. REVIEW AND UPDATE

This plan is a living document and responsibilities, procedures and working principles should be reviewed for appropriateness and updated as necessary as project conditions change. If there is no change within the scope of the project that requires a plan revision, this plan should be reviewed semi-annually for the first year of the project and annually from the second year of the project, and review records should be kept.