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PROJECT NAME	ERCIYES WIND POWER PLANT (25 TURBINES, CAPACITY=65 MWm/65 MWe)
Should be presented in detail and descriptively about the PROJECT PRICE (Cost) (proforma, invoice, business book, etc.)	162.500.000 TL (Investment Cost per MW, 2.500.000 TL)
OPEN ADDRESS OF THE PLACE SELECTED FOR THE PROJECT (The name, location, if it is located in more than one province or district, the name of the region that defines them)	Kayseri province, Yahyalı district, Çamlıca District and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills Location
PLACE OF THE PROJECT WITHIN THE SCOPE OF EIA REGULATION (Sector, Sub-Sector)	EIA Regulation Entered into Force by Publishing in the Official Gazette dated 25/11/2014 and numbered 29186 (Amendment: Official Gazette dated 26/5/2017 and numbered 30077), ANNEX-1 LIST OF PROJECTS TO BE APPLIED FOR ENVIRONMENTAL IMPACT ASSESSMENT Article 43- Wind power plants with 20 or more turbines or 50 MWm or more installed power

NACE CODE OF THE PROJECT	35.11.19. Electric Power Generation
NAME OF THE WORKING GROUP / ORGANIZATION PREPARING THE REPORT	 aktifçevre ULUSLARARASI ÇEVRE YATIRIMLARI MÜHENDİSLİK VE DANIŞMANLIK LTD. STİ.
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CONTENTS

LIST OF APPENDICES	Error! Bookmark not defined.
LIST OF TABLES	Error! Bookmark not defined.
LIST OF FIGURES	Error! Bookmark not defined.
LIST OF GRAPHS	Error! Bookmark not defined.
NON-TECHNICAL SUMMARY OF THE PROJECT:	Error! Bookmark not defined.
SECTION I: DESCRIPTION AND OBJECTIVE OF THE PROJECT	3
SECTION II: PROJECT SITE SELECTION	Error! Bookmark not defined.
II.1. Project Site (While the site is within the scope of the 1/100,000 scale Environmental Plan of Yozgat-Sivas-Kayseri Planning Region Attaching the exact copies of the original relevant plan sheet, legend and plan provisions of the area subject to the project including the information about the status of the project area in the Environmental plan to the EIA report)	13
II.2. The location of the activity units within the scope of the project (Indication of the location of all administrative and social units and technical infrastructure units within the project area on the site plan,) (Specifying the coordinates of the facilities within the project area separately and showing the existing roads between the turbines and the roads to be constructed, if any, on the site plan and on the topographic map.).....	13
SECTION III: ECONOMIC AND SOCIAL DIMENSIONS OF THE PROJECT	Error! Bookmark not defined.
III.1. Investment Program for the Realization of the Project, Financial Resources, where these resources shall be obtained,	Error! Bookmark not defined.
III.2. Work flow chart or schedule table related to the realization of the project,	31
III.3. Benefit-cost analysis of the project,.....	34
III.4. Other economic, social and infrastructure activities that are not within the scope of the project but are planned to be carried out by the investor company or other companies depending on the realization of the project,	35
III.5. Other economic, social and infrastructure projects that are not within the scope of the project but are essential for the realization of the project and planned to be realized by the project owner or other investors,	35
III.6. How to expropriate and resettle, public information methods within the scope of expropriation, possible site overlap with other existing facilities,.....	35
III.7. Other considerations.	35

SECTION IV : DETERMINATION OF THE AREA TO BE AFFECTED BY THE WIND POWER PLANT AND EXPLANATION OF THE CURRENT ENVIRONMENTAL FEATURES OF THE AREA ()36

IV.1. Determining the area to be affected by the project (How and according to what the impact area is determined will be explained and the impact area shall be shown on the map),.....	36
IV.1.1. If there are mines in the project area , their effects on the project, measures to be taken,	37
IV.2. Characteristics of the physical and biological environment within the impact area and the use of natural resources,	37
IV.2.1. Geological features of the project area (Tectonic movements, topographic features, mineral resources, landslides, unique formations, avalanches, floods, rockfalls etc. 1/25,000 geological map and a large scale (1/5,000) geological map of the study area and stratigraphic column sections, Geological and Geotechnical Study Reports),.....	37
IV.2.2. Hydrological and hydrogeological current and planned use of surface and underground water resources,	42
IV.2.3. Soil Characteristics and Usage Status (Classification of land use capability of the soil, erosion, pasture, meadow, current use conditions of the soil, etc.),	47
IV.2.4. Agricultural Areas (Qualifications of agricultural lands in the project area, agricultural project development areas, special crop plantation areas, size of irrigated and dry agricultural lands, crop patterns and their annual production amounts, the effects of the project on agricultural areas).....	47
IV.2.5. Forest Areas (Attaching Types and total amount (m ²) of trees , the size of the area they cover and their closure, their current and planned protection and/or usage purposes, Homeland map in 1/25.000 scale, where the project site is marked, 1/10,000 scale Forest Cadastre and approved stand map, to the report.),	49
IV.2.6. Protected Areas (National Parks, Nature Parks, Wetlands, Natural Monuments, Nature Protection Areas, Wildlife Protection Areas, Biogenetic Reserve Areas, Biosphere Reserves, Natural Sites and Monuments, Archaeological, Historical, Cultural Sites, Special Environmental Protection Areas, Special Protection Areas, Tourism Areas and Centers, Areas within the scope of Pasture Law),.....	49
IV.2.7. Flora and Fauna (species, endemic, especially locally endemic plant species, relative abundance degrees, naturally living animal species, species protected by national and international legislation; rare and endangered species and their habitats, game animals, their populations and Center Hunting Commission Decisions for these species), Showing the vegetation types and sampling areas on the project area on a map, Giving a table of whether there is a species protected by international agreements (Bern Convention, etc.), The protection measures to be taken for the living things that will be affected by the activity in the project, (in construction and operation phases),.....	54

IV.2.8. Lands under the jurisdiction and in the possession of the authorized bodies of the state (Military Forbidden Zones, areas allocated to public institutions and organizations for certain purposes, areas limited by the Council of Ministers Decision No. 7/16349 published in the Official Gazette dated 25.09.1978 and numbered 16415),	64
IV.2.9. Meteorological and climatic characteristics (General climatic conditions of the region, numbered days, temperature, precipitation, pressure and wind distributions etc., if modeling work has been done, information on what has been done),,	64
IV.2.10. Seismicity and natural disaster potential, cracks on the slopes and whether there are areas to slip, landslide and flood risk, slope stability, map showing slip movements on slopes, slip analysis (It should also be applied in case of excavation waste), Mass movements (landslide/debris flow), sensitivity analysis, landslide risk map, landslide precipitation relationship,	86
IV.2.11. Other Features.	91
IV.3. Characteristics of Socio-Economic Environment.....	91
IV.3.1. Economic characteristics and social infrastructure services (main sectors that make up the economic structure of the region, the distribution of local workforce to these sectors, the place and importance of the production of goods and services in the economy of the region and the country, other information); Income (Distribution of income in the region by business lines, maximum, minimum and average income per capita by business lines); Unemployment (Ratio of unemployed population and active population in the region), (Education, health, cultural services and utilization of these services),.....	91
IV.3.2. Population (urban and rural population in the region, population movements, migrations, population growth rates, average household population, other information),	100
IV.3.3. Urban and Rural Land Usage in the Project Area and Its Surroundings (Distribution of settlement areas, current and planned usage areas, in this context, industrial zones, residences, tourism areas, etc.),.....	103
IV.3.4. Other Features..	104

SECTION V: IMPACTS OF THE PROJECT ON THE AREA DEFINED IN SECTION IV AND MEASURES TO BE TAKEN105

V.1. Preparation of the Land, Activities in Construction and Installation Phase, Effects on the Physical and Biological Environment and Measures to be Taken.....	105
V.1.1. Where and how much excavation and vegetative soil shall be formed within the scope of the works to be done for the preparation of the land, excavated and vegetative soil amounts, materials to be used, where excavation residue soil, stone, sand, etc. and vegetative soil shall be transported (shown in the 1/25.000 scale site plan), where they shall be stored, the volume of the area (shown separately on the 1/1.000 scale current map) and for what purposes they shall be used, the excavation material arrangement and restoration plan and the characteristics of the temporary storage area,,.....	105

V.1.2. Maximum amounts, their transportation, storage and use of flammable, explosive, dangerous, toxic and chemical substances to be used during the preparation of the land and also in the construction of the units, tools and machines to be used for these works,	108
V.1.3. The transportation infrastructure plan within the scope of the project, distance of the project area to the highways, the connection roads to the highway, the measures to be taken to prevent damage to the existing roads to be used for transportation and the measures to be taken in terms of traffic safety, operations related to the construction of transport infrastructure, features of the new roads to be built, materials to be used, chemicals, vehicles, machinery; Dust spreading mechanical processes such as crushing, grinding, transportation, storage during the construction of the infrastructure, vehicle load, type and number, calculation of the increase, (Opinions and permits to be taken in this context), preparation of the site plans of the new roads to be built at the scales of 1/25.000 and 1/1.000 (Getting the necessary permits),.....	108
V.1.4. Where, how much and how the material to be used within the scope of the project shall be procured, (Indicating where to procure the aggregate for the concrete plant in case of concrete usage etc.), If any, information about material procurement, manufacturing maps, Marking the quarry and facility on the 1/25.000 scale topographic map, specifying the distances to the settlements and the shipping route, ownership status of the material quarries, if any,	112
V.1.5. Ground safety, actions to be taken to prevent landslides (taking into account the landslide risk), measures to be taken,.....	112
V.1.6. Dust spreading processes such as crushing, grinding, transportation and storage, blasting during construction,	112
V.1.7. Operations related to grounding and lightning rod installation to be carried out in the Wind Power Plant,.....	127
V.1.8. Sources and level of noise to be occurred due to the works to be carried out during the preparation of the land and the construction of the plants,	128
V.1.9. The amount and characteristics of solid waste to be generated within the scope of the project, how it will be disposed of,.....	142
V.1.10. The amount of water to be used within the scope of the project, where and how it is obtained, how the wastewater to be generated as a result of the use of these waters shall be given to which receiving environment after which processes, and the characteristics of these waters,	146
V.1.11. The natural plant species to be eliminated and the area in which these works will be carried out, in order to prepare the land and to obtain the necessary land for the construction site,.....	149
V.1.12. The size of the agricultural lands to be sold out in order to prepare the land and to obtain the necessary land for the construction site, their land use capabilities and agricultural product types, permits and commitments to be taken,.....	150
V.1.13. The types and numbers of trees to be cut in order to prepare the land and to provide the necessary land for the construction site, , stand type, its density , the effects of the trees to be cut	

on the forest ecosystem in the region, the necessary permits, authority reviews , the distance to the forest areas if the project or a part of it is outside the forest area, evaluation of the effects, measures to be taken,.....	154
V.1.14 Types of fuels to be used in works to be carried out from the preparation of the land to the commissioning of the units, their properties, emissions to occur,	156
V.1.15. The construction site to be established for the personnel, starting from the preparation of the land until the commissioning of the units and Where and how other technical/social infrastructure needs shall be provided,,	160
V.1.16. Works that are risky and dangerous for human health and the environment, from the preparation of the land until the commissioning,.....	160
V.1.17. Determining the severity of the effects on the material and the dispersal effect on the cultural and natural assets (Traditional urban fabric, archaeological remains, natural values to be protected) located on the underground and above ground in the line route and its immediate surroundings,	161
V.1.18. Other activities.....	162
V.2. Activities in the Operational Phase of the Project, Its Effects on the Physical and Biological Environment and Measures to be Taken,	164
V.2.1. Features, dimensions, capacities, etc. of the activity units, the other informations	164
V.2.2. What actions shall be taken for the maintenance of the Wind Power Plant and Energy Connection Lines, materials to be used, the type and amount of waste to be produced, features, dimensions, characteristics and how to dispose of them (Giving information about the maintenance frequency of turbines, wastes to be generated and their disposal),.....	166
V.2.3. Electric and magnetic fields and their intensity, effects, precautions to be taken,	169
V.2.4. Specifying how far and in which direction the electrical energy to be obtained within the scope of the project will be transmitted to the transmission line, (Giving information about electricity generation and transformer connection, at what voltage, at what distance and in which direction the electric energy to be obtained will be transported to the transmission line and examination according to the EIA Regulation),	172
V.2.5. Whether there are risks that may endanger safety (providing Bird migration routes, Ecological Assessment Report in the annexes),,,	172
V.2.6. The effects of the line and transformer on the facilities related to communication (PTT (Post and Telegraph Organization) lines, radio, TV transmitters, etc.),	175
V.2.7. Identification of possible effects on forest areas and measures to be taken against these effects, measures to be taken against forest fires,,.....	176
V.2.8. Examining in detail the possible effects on the beekeeping activities carried out in the region during the operation of the project and specifying the measures to be taken,	177
V.2.9. Noise sources and precautions to be taken during the operation of the project units,	178

V.2.10. Evaluations made within the scope of the project regarding the light reflection and shadow effect to be caused by the turbines,.....	184
V.2.11. If there are airports, military or civil radar, meteorology stations and similar facilities in the project area and its immediate surroundings, specifying the distances to the project area, .	184
V.2.12. Where and how housing and other social/technical infrastructure needs of The personnel to work during the operation of the project and the population dependent on this personnel, shall be provided,	184
V.2.13. The characteristics of the treatment plant to be applied for the treatment of waste water that will occur after the use of drinking and utility water in administrative and social units, detailing the process and how the treated wastewater will be delivered to which receiving environments, in what quantities,	185
V.2.14. The amount and characteristics of solid waste to be generated from administrative and social facilities, where and how these wastes are transported or for what purposes and how they are evaluated,.....	186
V.2.15. Risky and dangerous activities in terms of human health and environment during the operation phase of the project,.....	189
V.2.16. Site arrangements to create landscape elements in the project area or for other purposes,	193
V.2.17. Description of the economic life of the site and the actions to be taken in case of abandonment,.....	193
V.2.18. By the review boards specified in the Regulation on Opening a Business and Working Licenses, Indicating that the distance of the health protection band is determined and that the Business and Working Licenses are obtained,.....	194
V.2.19. Indicating that the undertakings specified in the EIA Report and the General Sanitary Law No. 1593 and the laws and regulations related to the project shall be complied with in the assembly, operation and operations after the operation of the turbines within the scope of the project,	194
V.2.20. Other activities.....	195
V.3. Effects of the Project on the Socio-Economic Environment,	196
V.3.1. Income increases expected to be realized with the project; employment opportunities to be created, population movements, migrations, education, health, culture, other social and technical infrastructure services and changes in the use of these services, etc.	196
V.3.2. Environmental cost-benefit analysis,.....	199

PART VI: AT THE END OF THE PROJECT LIFE TIME, POSSIBLE AND LASTING EFFECTS AND MEASURES TO BE TAKEN AGAINST THESE EFFECTS:.....Error! Bookmark not defined.

VI.1. Land Reclamation,.....	203
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VI.2. Other Activities..	203
PART VII: PROJECT ALTERNATIVES.....	204
PART VIII: MONITORING PROGRAM.....	208
VIII.1. The proposed monitoring program for the construction,operation and post-operation of the activity, and the emergency response plan, the Environmental Management team	208
VIII.2. If EIA Positive Certificate is given, The program related to the realization of the issues in the fourth paragraph of the title of "Responsibilities of the institutions/organizations that have received the Competence Certificate" in the Competence Communiqué.....	213
PART IX: PARTICIPATION OF PUBLIC	214
PART X: CONCLUSIONS.....	217
APPENDICES:	227
NOTES AND REFERENCES::	Error! Bookmark not defined.

APPENDIX LIST

ANNEX 1	: Project Area Coordinates
ANNEX 2	: Location Map
ANNEX 3	: 1/25.000 Scale Topographic Map and Layout Plan
ANNEX 4	: Approved 1/100,000 Scale Environmental Plan and Legend
ANNEX 5	: Property Status Map and Expropriation Plan
ANNEX 6	: EMRA Prelicense
ANNEX 7	: EIA Format Institutional Opinions
ANNEX 8	: Forest Investigation Evaluation Form and Opinion of the Directorate of Combating Forest Fires of the General Directorate of Forestry
ANNEX 9	: Land Asset Map
ANNEX 10	: Protected Areas Map and Vegetation Map
ANNEX 11	: Septic Tank Plan and KASKİ Sewage Letter
ANNEX 12	: Yahyalı Municipality Solid Waste Disposal and Water Supply Letters
ANNEX 13	: Opinion of Kayseri Metropolitan Municipality Directorate of Public Works and Urbanization
ANNEX 14	: Opinion of Kayseri Provincial Directorate of Environment and Urbanization, Directorate of Conservation of Natural Assets
ANNEX 15	: Opinion of Kayseri Cultural Heritage Preservation Regional Board Directorate
ANNEX 16	: Opinion of TEİAS
ANNEX 17	: Opinion of the Ministry of National Defense, General Directorate of State Airports Authority and General Directorate of Civil Aviation
ANNEX 18	: Opinion of MİGEM

- ANNEX 19** : Opinion of Ministry of Forestry and Water Affairs, General Directorate of Nature Conservation and National Parks and Opinion of VII.District Directorate (Adana Regional Directorate of Nature Conservation)
- ANNEX 20** : Opinion of DSI 12th Regional Directorate
- ANNEX 21** : Minutes of Public Participation Meeting
- ANNEX 22** : Emergency Response Plan
- ANNEX 23** : Landscape Repair Plan Report
- ANNEX 24** : Social Impact Assessment Report
- ANNEX 25** : Ecosystem Assessment Report
- ANNEX 26** : Approved Meteorological Data and Air Quality Distribution Modeling Report
- ANNEX 27** : Site Survey Letter
- ANNEX 28** : Photos from the Project Area
- ANNEX 29** : Project Special Format

LIST OF TABLES	Page Number
Table I.1. Technical Details of Turbines to be Used in the Project.....	6
Table II.2.1. Turbine Coordinates	15
Table II.2.2. (EIA Area) Coordinates of Power Plant Site	16
Table II.2.3. Coordinates of Switchyard	Error! Bookmark not defined.
Table II.2.4. Coordinates of Excavation Area-1.....	Error! Bookmark not defined.
Table II.2.5. Coordinates of Excavation Area-2.....	22
Table II.2.6. Coordinates of Excavation Area-3.....	23
Table II.2.7. Coordinates of Excavation Area-4.....	23
Table II.2.8. Coordinates of Excavation Area-5.....	24
Table II.2.9. Coordinates of Excavation Area-6.....	24
Table II.2.10. Coordinates of Excavation Area-7.....	25
Table II.2.11. Coordinates of Vegetative Soil Stock Area-1.....	25
Table II.2.12. Coordinates of Vegetative Soil Stock Area-2.....	26
Table II.2.13. Coordinates of Vegetative Soil Stock Area-3.....	26
Table II.2.14. Coordinates of Vegetative Soil Stock Area-4.....	27
Table II.2.15. Coordinates of Vegetative Soil Stock Area-5.....	27
Table II.2.16. Coordinates of Vegetative Soil Stock Area-6.....	28
Table II.2.17. Coordinates of Vegetative Soil Stock Area-7.....	28
Table II.2.18. Coordinates of Construction Site.....	29
Table II.2.19. Coordinates of Septic Tank.....	29
Table II.2.20. Temporary Waste Storage Area.....	30
Table II.2.21. Coordinates Of Wind Measurement Station.....	30
Table -III.2.1. Project Timing Table.....	32
Table IV.1.1. Settlements Around the Project Site, Location and Distance to the Nearest Facility**	37
Table V.2.2.1. Kayseri Province Streams (DSİ XII. Regional Directorate, 2015).....	42
Table V.2.2.2. Existing Irrigation Ponds in Kayseri Province (DSİ 12th Division, 2017)	43
Table V.2.2.2. Kayseri Province Groundwater Potential (KASKİ 2016)	44

Table V.2.2.3. Kayseri Underground Water Potential and Its Usage Status (DSİ XII Dept. Directorate 2016)	45
Table -IV.2.6.1. Assessment of the Project Area According to the Sensitive Regions in ANNEX-5	49
Table IV.2.9.1. Average Pressure, Maximum Pressure and Minimum Pressure Values ..	65
Table IV.2.9.2. Average Temperature, Maximum Temperature and Minimum Temperature Values Table	66
Table IV.2.9.3. Total Precipitation Average and Maximum Precipitation Values Table .	67
Table IV.2.9.4. Average, Minimum and Maximum Relative Humidity Values Table	68
Table IV.2.9.5. Number of Days Values With Snow, Snow Covered, Foggy, Hail, Frost and Thunderstorm	69
Table IV.2.9.6. Maximum Snow Thickness Values Table.....	71
Table IV.2.9.7. Evaporation Values	72
Table IV.2.9.8. Total Number of Wind Blows According to Directions for Long Years.	73
Table IV.2.9.9. Table of Sum of Number of Wind Blows According to Directions in Winter Season	74
Table IV.2.9.10. Table of Total Number of Wind Blows According to Directions for Spring Season	75
Table IV.2.9.11. Table of Sum of Number of Wind Blows According to Directions for Summer Season.....	76
Table IV.2.9.12. Total Number of Wind Blows According to Directions in Autumn Season	77
Table IV.2.9.13. Average Speed of Wind According to Directions for Long Years	79
Table IV.2.9.14 Average Wind Speed, and Maximum Wind Speed and Direction Values	80
Table IV.2.9.15. Average Number of Stormy Days and Average Number of Strong Days Values	81
Table IV.2.9.16. Long Years Fevk (Extraordinary Events) Reports (Develi).....	82
Table IV.2.9.17. Air Quality Contributions of the Project	85
Table IV.2.9.18. Air Quality Values of the Facility in Sensitive Receptors in the Influence Area.....	85
Table IV.2.10.1. Earthquake data of Ms>4.5 and above that occurred between 1900-2017 in the region bordered by a radius of 100 km, accepted as the center of Yahyalı	87

Table IV.2.10.2. Magnitude- Earthquake Counts regression analysis	88
Table IV.3.1.1. Regional industry and services sector indicators, 2011	91
Table IV.3.1.2. Yahyalı Agricultural Production Areas.....	92
Table IV.3.1.3. Irrigation Values of the Lands.....	92
Table IV.3.1.4. Agricultural Land Use by District, 2013	93
Table IV.3.1.5. Bovine-Ovine and Poultry Assets in Yahyalı District, 2016	94
Table IV.3.1.6. Animal Production by Districts, TUIK 2013	94
Table IV.3.1.7. Gross value added per regional capita.....	96
Table IV.3.1.8. Labor Force Participation Rates, 2013	96
Table IV.3.1.9. Kayseri Province Employment Rates, 2013.....	97
Table IV.3.1.10. Distribution of the employed according to the labor force	97
Table IV.3.1.11. Kayseri Province Unemployment Rates (TUIK:2013)	97
Table IV.3.1.12. Education Indicators,2012.....	97
Table IV.3.1.13. Literacy Rates.....	98
Table IV.3.1.14. Health Indicators, 2012	98
Table IV.3.1.15. Number of hospitals and beds*2013	98
Table IV.3.1.16. Number of health personnel	99
Table IV.3.1.17. Number of Public Library, Book and Usage Rates	99
Table IV.3.1.18. Number of movie theaters, performances and spectators	99
Table IV.3.1.19. Theatre hall, the number of performances and spectators.....	100
Table IV.3.2.1. Kayseri Province Population Information for 2015	100
Table IV.3.2.2. Population of provincial and district centers and towns and villages	101
Table IV.3.2.3. Yahyalı District, population by age group and gender, 2013.....	101
Table IV.3.2.4. Kayseri Province Population Growth Rate,2013	102
Table IV.3.2.5. Household Size by District.....	102
Table IV.3.2.6. Population and migration indicators, Kayseri 2013	102
Table V.1.1.1. Excavations to be Occurred During the Construction Phase.....	107
Table V.1.6.1. Dust Emission Factors and Emission Flow Rates	113
Table V.1.6.2. Cumulative Total Dust Emissions During the Construction of the Plant	123
Table V.1.6.3. Air Quality Contributions for the Construction Phase of the Project.....	125

Table V.1.6.4. Air Quality Values of the Facility at Sensitive Receptors in the Construction Phase Impact Area.....	125
Table V.1.8.1. Types of vehicles and Their Engine Powers to be Used During the Construction of the Project	128
Table V.1.8.2. Sound Power Levels Defined According to Equipment Type and Their Net Power Level	129
Table V.1.8.3. Number of Machinery-Equipment to be Used and Sound Power Levels	133
Table V.1.8.4. Distribution of Sound Power Levels to Octave Bands	133
Table V.1.8.5. Sound Pressure Levels.....	134
Table V.1.8.6. Atmospheric Absorption	136
Table V.1.8.7. Ultimate Sound Pressure Levels.....	137
Table V.1.8.8. Correction Factors	139
Table V.1.8.9. Total Sound Levels.....	139
Table V.1.8.10. Lday Levels in operation phase	141
Table V.1.8.11. Limit values for construction site noises according to the CGDY (Evaluation and Management of the Environmental Noise) Regulation	142
Table V.1.9.1 Codes and Quantities of Domestic Municipal Wastes to be Occurred During Construction Phase	143
Table V.1.9.2. Codes and Quantities of Packaging Wastes to Be Occurred During Construction.....	143
Table V.1.9.3. Codes and Quantities of Construction Wastes to Be Occurred During Construction.....	144
Table V.1.9.4. Waste Batteries and Accumulators and Their Quantities to Be Occurred During Construction	145
Table V.1.9.5 End-of-Life Tires to Be Occurred During Construction and Their Quantities	146
Table V.1.11.1. Water Use and Supply during construction.....	147
Table V.1.11.2. Pollutants and Average Concentrations in Domestic Wastewater (Benefield, L. And Randall,C., 1980).....	148
Table V.1.11.3. Domestic Wastewater Pollutant Loads during construction	148
Table V.1.12.1. List of Pastures and Fields within the Scope of the Project	150

Table V.1.13.1. Wealth and Number of Trees in Hectare by Stand Types	155
Table V.1.14.1. General Characteristics of Diesel	156
Table V.1.14.2. Construction Vehicle and Engine Powers to be Used During the Construction of the Project	157
Table V.1.14.3. Exhaust Gas Contaminants of Heavy Diesel Vehicles (EPA Standards)	157
Table V.1.14.4. Carbon monoxide (CO) Emissions from Vehicles and Construction Equipment.....	158
Table V.1.14.5. Hydrocarbon (HC) Emissions from Vehicles and Construction Vehicles	158
Table V.1.14.6. Nitrous Oxide (NOx) Emissions from Vehicles and Construction Vehicles	158
Table V.1.14.7. Dust (PM) Emissions from Vehicles and Construction Machinery	159
Table V.1.14.8. Comparison of Mass Flow Rates with Limit Values given in SKHKKY	159
Table V.1.18.1. Waste Oils and Amounts to Be Occurred During Construction.....	163
Table V.1.18.2 Hazardous Wastes to Be Occurred During Construction and Their Quantities	163
Table V.1.18.3. Code and Amount of Waste Vegetable Oil Expected to be Occurred During Construction	164
Table V.2.1.1. Dimensions, capacity and ownership of Activity Units	165
Table V.2.9.1. Equipment to be used and Their Sound Power Levels.....	178
Table V.2.9.2. Distribution of Sound Power Levels to Octave Bands	178
Table V.2.9.3. Sound Pressure Levels.....	179
Table V.2.9.4. Atmospheric Absorption	179
Table V.2.9.5. Ultimate Sound Pressure Levels.....	180
Table V.2.9.6. Correction Factors	181
Table V.2.9.7. Total Sound Levels.....	181
Table V.2.9.8. Lday , Levening and Lnight Levels in Operation Phase	182
Table V.2.8.9. Environmental Noise Limit Values Table for Industrial Facilities	183
Table V.2.13.1. Domestic Wastewater Pollutant Loads during operation	185

Table V.2.14.1. Codes and Quantities of Domestic Municipal Wastes to Be Generated During Operation	187
Table V.2.14.2. Packaging Wastes and Amounts to Be Occurred During Operation.....	187
Table V.2.14.3. Waste Batteries and Accumulators and Their Quantities to Be Occurred During Operation	188
Table V.2.20.1. Code and Amount of Vegetable Waste Oil Expected to Occur during Operation	195
Table V.3.2.1. CO ₂ , SO ₂ , NO _x emissions that cause global warming and acid rain during electrical energy production.....	201
Table VIII.1.1. Monitoring Plan.....	210

LIST OF FIGURES**Page Number**

Figure I.1. Example of a Wind Turbine Platform and Installation Works	5
Figure I.2. Wind Turbine Working Principle	7
Figure I.3. Wind Turbine Nacelle Internal Structure	8
Figure I.4. Wind Turbine General Structure.....	9
Figure I.5. Vestas V 100-2.6 Turbine General Schematic Display and Nacelle Internal Structure.....	10
Figure III.2.1. Project Work Flow Chart	31
Figure IV.2.1.1. Stratigraphic Section of the Study Area and Its Surroundings	42
Figure IV.2.7.3.1. Erciyes-WPP Site and Important Bird Areas nearby.....	58
Figure V.2.7.3.2. Position of Erciyes WPP relative to Aladağlar National Park	59
Figure V.2.7.3.3. Position of Erciyes WPP by Aladağlar Wildlife Development Area....	59
Figure IV.2.10.2. Probability of Earthquake by Years.....	90
Figure V.1.3.1. Traffic Network Map of the Region (6th Regional Directorate of Highways)	109
Figure V.1.3.2. Power Plant Area Access Road.....	109
Figure V.1.4. Dirt road view of Erciyes Wind Power Plant area	110
Figure V.1.3.5. Traffic volume map of the region (7th Regional Directorate of Highways)	111
Figure V.1.12.1. Common Use Examples in Pasture and Agricultural Lands	154

Figure V.1.12.1.2. The Example of Area Usage in Wind Plants and Establishment Friendly with Current Use	154
Figure V.2.5.1. Bird Migration Routes Passing Over Turkey and Project Area (Map L.Turan)	174
Figure V.2.8.1. Project area beekeeping activities and their distance to turbines	177
Figure V.3.2.1. Important Advantages of Wind Energy	200
Figure VII.1. Capacity Factor Distribution in Kayseri Province (REPA).....	205
Figure VII.2. Dominant Wind Direction According to Vortex Data.....	206
Figure IX.1. Public Participation Meeting Newspaper Advertisements	215
Figure IX.1. Photos from the Public Participation Meeting	216

LIST OF GRAPHS	Page Number
Graph IV.2.9.1. Average Pressure, Maximum Pressure and Minimum Pressure Values Graph	66
Graph IV.2.9.2. Average Temperature, Maximum Temperature and Minimum Temperature Values Graph.....	66
Graph IV.2.9.3. Total Precipitation Average and Maximum Precipitation Values Graph.....	67
Graph IV.2.9.4. Average Humidity and Minimum Humidity Values Chart.....	68
Graph IV.2.9.5. Number of Days with Snow, Number of Days with Snow Cover and Number of Foggy Days Values	70
Graph IV.2.9.6. Number of Days with Hail, Number of Days with Frosty and Number of Days with Rainfall Values	70
Graph IV.2.9.7. Maximum Snow Thickness Values.....	71
Graph IV.2.9.8. Average Open Surface Evaporation and Maximum Open Surface Evaporation Values	72
Graph IV.2.9.9. Wind Diagram According to Number of Wind Blows According to Directions (Annual).....	74
Graph IV.2.9.10. Wind Diagram According to Number of Wind Blows According to Directions (Winter Season)	75
Graph IV.2.9.11. Wind Diagram According to the Number of Wind Blows According to Directions (Spring Season).....	76

Graph IV.2.9.12. Wind Diagram According to Number of Wind Blows According to Directions (Summer Season).....	77
Graph IV.2.9.13. Wind Diagram According to Number of Wind Blows According to Directions (Autumn Season)	78
Graph IV.2.9.14. Wind Diagram According to Average Wind Speed Values for Long Years Directions (Annual).....	80
Graph IV.2.9.15. Average Wind Speed and Maximum Wind Speed Values	81
Graph IV.2.9.16. Average Number of Stormy Days and Average Number of Strong Days Values.....	82
Graph IV.3.1.1 Gross Domestic Product share by province, first 15 provinces, (TUIK.2014)	96
Graph V.1.8.1. Distribution of Noise by Distance Graph	141
Graph V.2.9.1.Distribution Graph of Noise According to Distances	182

ABBREVIATIONS

TC	Republic of Turkey
AB	European Union
ABD	United States of America
RES	Wind Power Plant
Bkz.	qq v
LTD.ŞTİ.	Limited company
A.Ş.	Incorporated company
CO₂	Carbon Dioxide
EPDK	Energy Market Regulatory Authority
EİE	General Directorate of Electrical Works Survey Administration
TEİAŞ	Turkey Electricity Transmission Joint Stock Company
GW	GigaWatt
IUCN	International Union for Conservation of Nature
TUBİVES	Turkey Crops Data Service
MAK	Central Hunting Commission
TM	Transformer Station
km	Kilometers
m	Meters
mm	Millimeter
m²	Square Meters
m³	Cubic Meters
s	Seconds
kV	Kilovolts
kW	KiloWatts
MW	MegaWatts
kWh	KiloWatt hour
L	Liter
m/s	Meter/Second
%	Percent
°C	Degrees Celsius

NON-TECHNICAL SUMMARY OF THE PROJECT:

(Explaining all the works of the project planned to be carried out during the construction and operation phases of the project and all the precautions to be taken for environmental impacts, without technical terms and in an understandable simplicity and including questions, opinions and suggestions from all stakeholders, especially at the Public Participation Meeting and during the EIA process and emphasizing how these views have been received)

By ENERJİSA Enerji Üretim A.Ş., Erciyes Wind Power Plant with an installed capacity of 65 MWm/65 MWe is planned to be established and operated in Locations of Kayseri province, Yahyalı district, Çamlıca and Yenice Neighborhood, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills. Within the scope of the project, a pre-license application has been made to EMRA (Energy Market Regulatory Authority) on 28.04.2015. Within the scope of the Competition Regulation on Pre-license Applications to Establish a Generation Facility Based on Wind and Solar Energy, Competitions were held on 21.06.2017, ENERJİSA Enerji Üretim A.Ş. is entitled to 65 MW capacity allocation for Erciyes WPP.

With the decision of the Energy Market Regulatory Board dated 05.10.2017 and numbered 7322-27, a pre-license has been granted for 36 months (**See Annex: 6**), in accordance with the Electricity Market Law No. 6446, in order to obtain the necessary approvals, permits, licenses and the like in order to start the investment of the 65 MW installed power ERCIYES Wind Energy Power Plant (WPP) project, which will be built within the borders of Yenice and Çamlıca neighborhoods of Yahyalı district, in Kayseri province.

Through 25 wind turbines with a capacity of 2.6 MWm/2.6 MWe planned to be installed in the project, It is planned to produce 227,500,000 kWh of energy annually. The generated electrical energy shall be transferred to the national grid by making an Input Output to the existing 154 kV Çamlıca 1 HEPP TM-Yeşilhisar TM Energy Transmission Line in the east of the field with a line of approximately 1 km.

The EIA Application File has been prepared and the EIA Process has been started for the Project with 25 turbines and 65 MWm power capacity, within the scope of the EIA Regulation Annex I List, which entered into force after being published in the Official Gazette dated 25.11.2014 and numbered 29186 (Amended:RG-26/5/2017-30077), "Article 43 - The threshold value for wind power plants with 20 or more turbines or 50 MWm and above installed power".

The issues that were mainly addressed in the EIA Process of the Erciyes WPP project and in the Public Participation Meeting held on 27.10.2017 are; to provide employment to the people of the region during the construction and operation, supply of qualified workers, use of pastures and issues related to whether beekeeping activities can be continued or not and the measures to be taken . The public has been informed by the project owner and his advisor, and necessary answers have been given. The opinions of the institutions and organizations that are members of the EIA commission and the evaluations of the opinions and suggestions of the local people are given in the relevant sections of this EIA report.

This report aims to evaluate the environmental impacts that may occur during the construction and operation activities , to identify and prevent the negative effects or to minimize them in a way that will not harm the environment, and to examine the interaction with the sensitive usage areas of the settlements that can be found around the activity area.

PART I: DESCRIPTION AND OBJECTIVE OF THE PROJECT

(Definition of the subject activity, its lifetime, its service purposes; the table showing the characteristic data of the facilities to be established in the project; characteristics of the turbines and how to transport and how to install them, hub height and rotor diameter of turbines, market or service areas and their economic and social importance and requirements at country, regional and/or provincial scale)

Description of Project:

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The power plant site selected for the project and approved by EMRA is 32,562 km² in size and the coordinates of the power plant site are given in Appendix: 1. The Location Map showing the project area is given in ANNEX:2.

Characteristics, Service Purposes, Importance and Necessity of the Investment Subject to the Project:

Throughout history, wind power has been utilized in many different ways. It is now used in the form of electricity generation while wind power has been used for thousands of

years, primarily for grinding grains and sea transportation with sailing ships. After the 1980s, This natural resource has started to be used intensively with the further development of wind power technologies in Europe and the USA. As a result of the pollution they cause, Fossil fuels such as coal and oil cause environmental problems. In addition, The fact that these resources are limited and will be depleted in the future has led people to alternative energy sources. As a matter of fact, Wind energy, which comes to mind first when it comes to renewable and clean energy source, is a resource that should not be ignored with its endless potential. In Europe, especially Germany, Denmark and Spain are remarkable countries with their wind power technologies. In addition, The USA ranks second after Germany with its production capacity. Apart from these developed countries, studies on wind power are increasing in developing countries. Countries like India and China are examples of this. In Turkey, steps are taken regarding wind power. The fact that coal and oil will run out in the future and leave wastes polluting the environment has brought the search for new energy sources to the agenda. These new resources are; solar, wind, biomass, geothermal, hydropower, sea wave and tidal energy. Such new energy sources are frequently on the agenda with names such as "inexhaustible", "alternative", "clean", "renewable". The history of utilizing wind power dates back to ancient times. B.C. in 2000, It is known that windmills, which were invented in Ancient Egypt, Iran, China and Japan have been used successfully in grain grinding. Mankind has started to use the wind as an energy source primarily in sea transportation, sailing ships and in windmills, which became widespread in the 12th century AD.¹

In the project, first of all, Such works shall be carried out; to construct and improve the intra-site connection roads and to establish the transmission line (cabling) and turbine construction platforms between turbines. After these works are completed, Excavation of the turbine foundations shall be carried out on the areas where the turbine towers shall be placed. After the foundation excavation of the areas where the turbine towers shall sit, The erection of the towers on these foundations and the consolidation of the foundation connections shall be carried out. Following the completion of the tower assemblies of the wind turbines, The turbine blades shall be assembled and the construction of the wind turbines shall be completed.

The radius of the foundation area of the turbines to be built within the scope of the project is approximately 9.5 meters. It is found as $\pi \times r^2 = 3.14 \times 9.5^2 = 283.385 \text{ m}^2$. from circle area formula of Turbine area. Within the scope of the project, The total seating area for a total of 25 turbines is approximately $283.385 \text{ m}^2 \times 25 = 7.085 \text{ m}^2$. Within the scope of the project, In the switchyard area of $31,044 \text{ m}^2$, approximately 6.000 m^2 of switchgear, administrative buildings and social facilities (Dormitory, Dining Hall, Washbasin and

¹ Fırat University, Faculty of Arts and Sciences, Department of Geography, Yrd.Doç. Selçuk HAYALI

Showers, etc.) shall be built. During the construction phase, Excavation wastes and topsoil that will emerge during the foundation excavations and vegetative soil stripping works, 7 Excavation Fields with an area of 3,000 m² and 7 Vegetative Soil Stock areas with an area of 10,000 m² have been selected for their storage purposes. The resulting excavation and vegetative soil shall be stored separately in the storage areas without being mixed with each other. Within the scope of the project, In-plant roads shall be constructed to ensure transportation between turbines The selection of road routes has been made by prioritising the existing roads, they will be used where possible. However, there will be new roads to be constructed and the total length of the roads is planned to be approximately 48 km with an average width of 10 meters.

In the construction of the project, according to the turbine type, The dimensions of the platform where the turbine tower and blade assembly are made are determined by the turbine supplier companies. Platform areas shall be created based on the data of the wind turbine manufacturer selected by the investor.



Figure I.1. Example of a Wind Turbine Platform and Installation Works

The electrical energy to be produced by wind turbines is mainly depends on the followings;

- Wind speed and frequency,
- The terrain and surface structure of the turbine site, as well as the area swept by the turbine blades,

Therefore, The detailed wind measurements and selection of location within the candidate regions where the wind farms planned to be established are the main factors in determining the main characteristics of the facilities.

In addition, the facility location to be selected should have

- Acceptable surface roughness,
- suitable topography for transportation and the construction of the Plant,
- Enough size of the field,
- Proximity to the national energy system.

Wind turbines are machines that convert the energy of moving air into mechanical energy. Therefore, electricity generation from wind is one of the basic methods of wind energy applications.

Wind turbines used to generate electrical energy; They are high-speed machines with one, two or three blades.

Within the scope of the project, branded VESTAS V100-2.6 MW turbine shall be used.

Table I.1. Technical Details of Turbines to be Used in the Project

GENERAL DATA	UNIT	CHARACTERİSTİC
Rotor type	-	Horizontal axis 3-blade rotor
Power Management	-	Active slope control system regulated at different speeds
Rated Power	MW	2,6
The wind running-up	m/s	3
Rated wind speed	m/s	12,5
The wind cutting-out	m/s	23
Wind Class	-	IEC IIB
Standard Operating Temperature	°C	-20 ila 40

Rotor Diameter	M	100
Rotor Scavenging Area	m ²	7,854
Blade length	m	49 m
Tower Type		tubular steel tower
(Hub)Tower height	m	80
Frequency	Hz	50
Generator type	-	four pole double fed generator
Nacelle (Head) Width/Length	m	9.65 /3,65

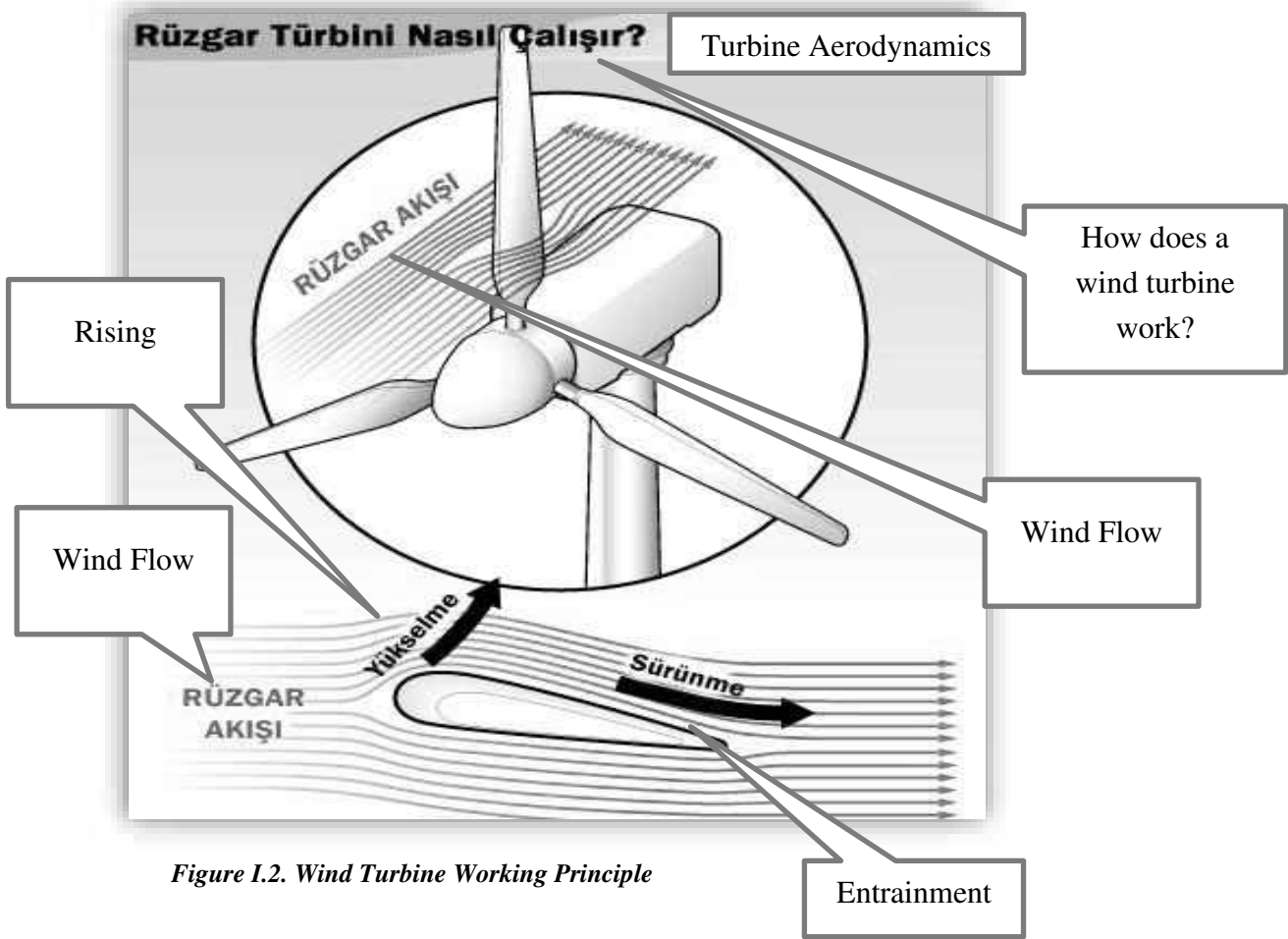


Figure I.2. Wind Turbine Working Principle

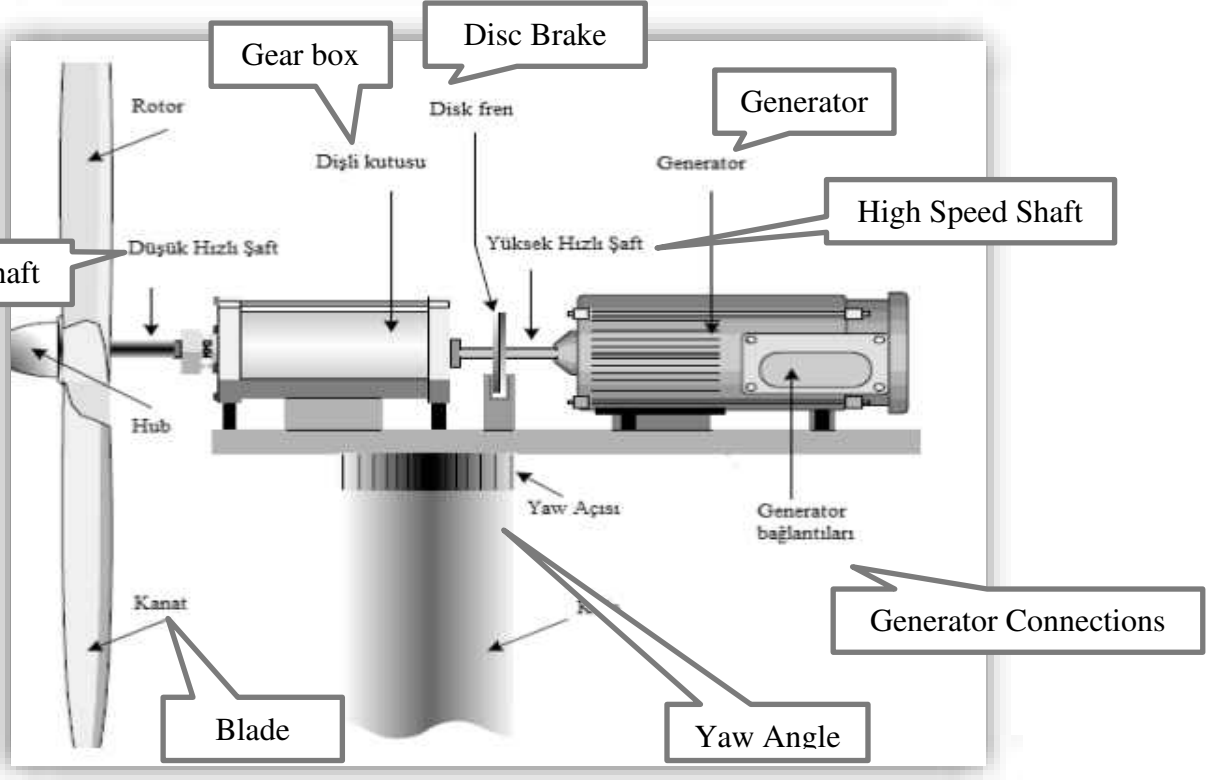


Figure I.3. Wind Turbine Nacelle Internal Structure

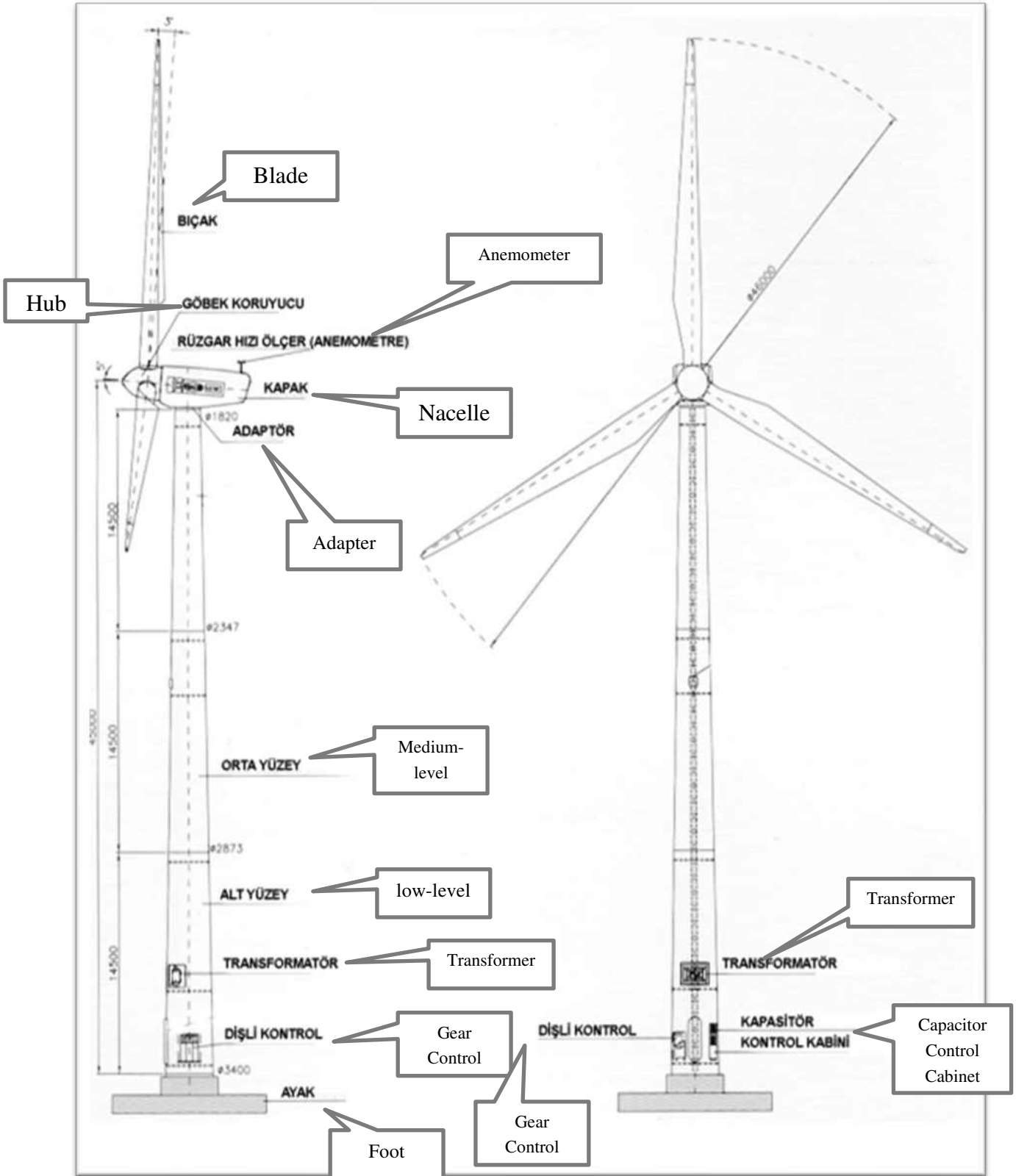


Figure I.4. General Structure of a Wind Turbine

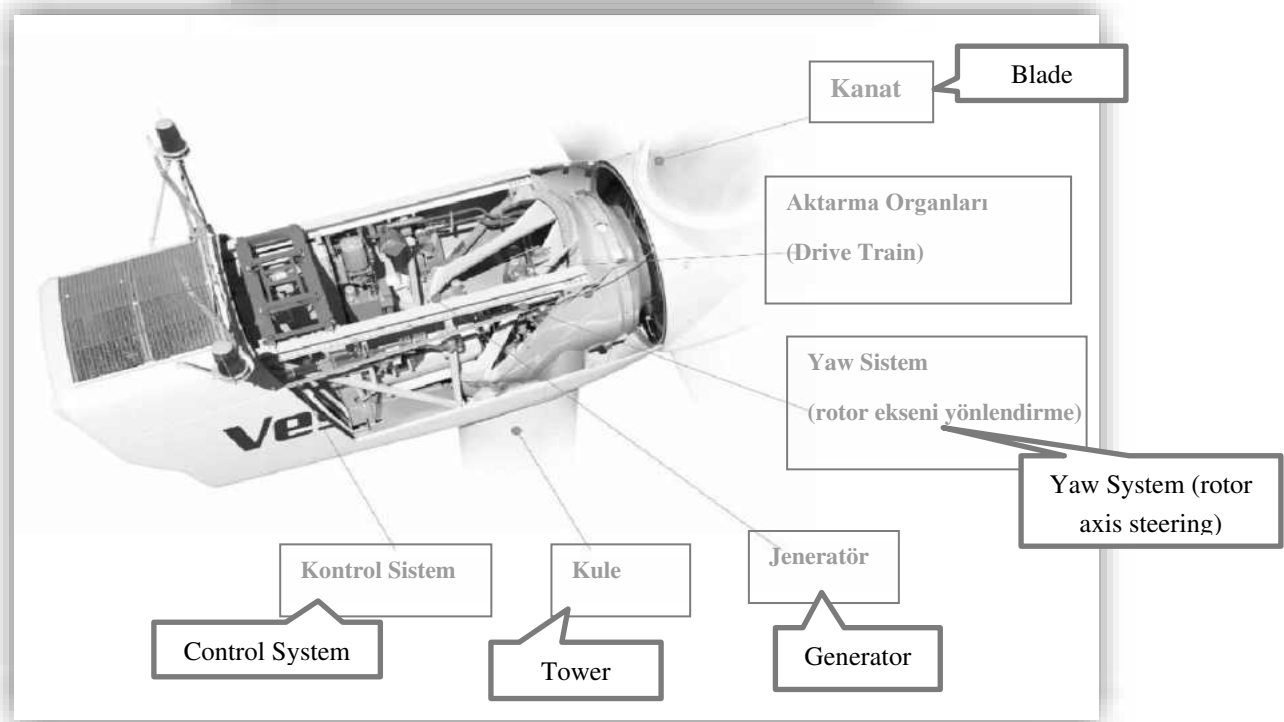
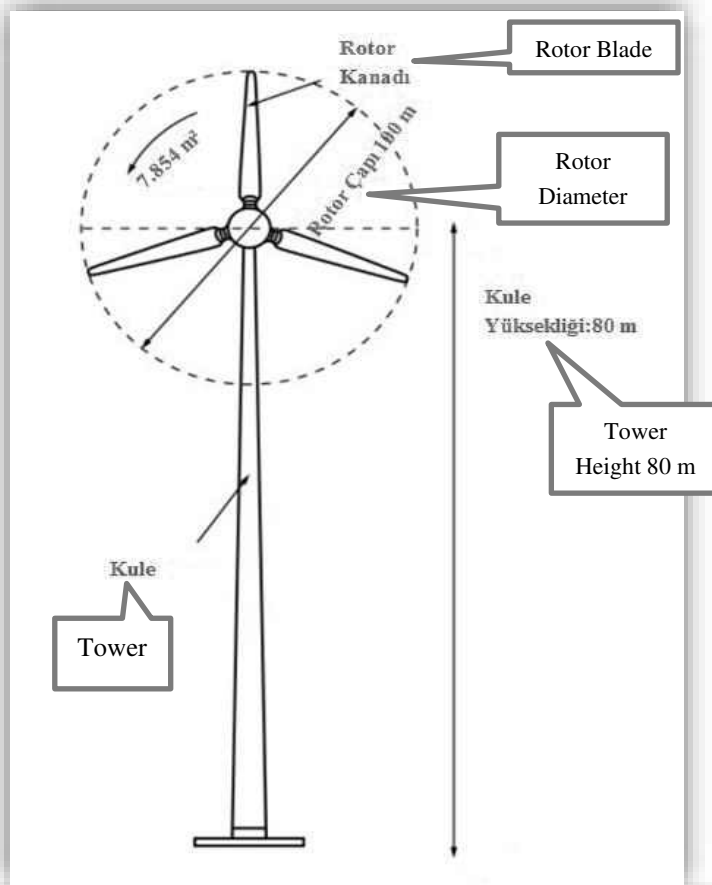


Figure I.5. Vestas V 100-2.6 Turbine General Schematic Display and Nacelle Internal Structure

Wind Turbine

It is the converter mechanism that converts the kinetic energy of the wind into electricity. The wind turbine mainly consists of the following parts;

- ❖ Propeller (rotor)
 - Turbine Blade,
 - Turbine Hub
- ❖ Head (engine room), this part is also called nacelle.
 - Main shaft,
 - Gear box,
 - Emergency Braking System,
 - Direction motors,
 - Generator,
 - Cooling system,
 - Control units,
- ❖ Tower
 - Stairs or elevators,
 - Electric cables,
 - Control units and communication cables,
- ❖ Foundation
 - Floor board,
 - Concrete and steel abutment,

System operation

When the wind starts to blow, the direction of the wind turbine turns towards the wind, and the wind hitting the blades of the turbine creates a rotational movement in the blade. This rotational motion turns the main shaft, which is connected to the blade and located inside the head.

Gears inside the gearbox connected to the main shaft increase the rotation speed and transmit the power to the fast shaft. The fast shaft transfers this rotational motion and therefore the power to the generator. When the generator turns, electricity is produced. The cooling process of the generator generating electricity is provided by the cooling system. The electricity produced by the generator comes to the control unit located at the base of the tower via cables. Here the electricity is arranged to adapt to the grid and transferred to the medium voltage transformer.

In the medium voltage transformer, the voltage value is increased and transferred to the medium voltage power transmission lines. The medium voltage cable that goes from underground to the energy transmission lines comes to the surface and connects to the power transmission line. The power transmission line inside the power plant is then connected to the National Grid with a stub connection. The generated electricity becomes usable.

Turbines selected for the project works similarly to conventional systems with versatility in adaptation to the project site, having noise isolation, which enable aerodynamics and can control rotation by reducing the load, extending the life of the turbine in this sense and which provide power regulation by optimizing the voltage.

The turbines to be installed in the project are mounted on robust and durable steel poles produced at world standards. With the foundation depths and concreting methods predicted according to the foundation and soil properties determined by the drillings and resistivity studies made in the geological and geotechnical survey reports made for the project, these pillars are fixed in place and the foundation pillars are reinforced with steel ropes and additional concreting works against the risks of the turbines toppling over.

It is planned to employ 40 personnel in the construction works to be carried out in the activity area and 10 personnel in the operation phase. Within the scope of the project, a 500 m² prefabricated type construction site shall be established next to the switchyard in order to meet the needs of the workers during the construction phase.

Life of Project Subject Investment:

As a result of the pre-license application made to EMRA for the project, in accordance with the EMRA Board Decision dated 21.11.2013 and numbered 4711, a pre-license covering 36 months before construction has been given. (See Appendix:6). After the obligations determined in the Electricity Market License Regulation published in the Official Gazette dated 02.11.2013 and numbered 28809 are completed, An application shall be made to EMRA to obtain a 49-year production license. In accordance with the EMRA Board Decision dated 21.11.2013 and numbered 4711, 38 months in the construction period shall be given to the project at the production license stage.

The machinery and equipment to be used in the project shall be equipped with the latest technology, and the project life is expected to be 49 years. Necessary modernization works shall be carried out, machinery-equipment shall be renewed at the end of their expected physical life, and necessary renewals shall be made in other installations. At the same time, the owner shall follow the technological developments and innovations and shall carry out the necessary renovation works at the Plant.

PART II: LOCATION OF THE PLACE SELECTED FOR THE PROJECT**II.I. Project Site (While the site is within the scope of the 1/100,000 scale Environmental Plan of Yozgat-Sivas-Kayseri Planning Region Attaching the exact copies of the original relevant plan sheet, legend and plan provisions of the area subject to the project including the information about the status of the project area in the Environmental plan to the EIA report)**

The project area is located on the Yozgat-Sivas-Kayseri Planning Region 1/100.000 Scale Environmental Plan L 34, M34 Plan map, remains in the forest and meadow-pasture legend. Within the scope of the project, The 1/100.000 Scaled Environmental Plan same as the original, Plan Notes and Legend are presented in Appendix:4. The power plant site location is marked on the 1/25.000 Scale Map and is given in Annex:3.

In the project, there are no 1/5.000 or 1/1.000 Zoning Plans in the region where the area is located. In this context, The opinion letter given by Kayseri Metropolitan Municipality, Department of Reconstruction and Urbanization is presented in Annex:13.

II.2. The location of the activity units within the scope of the project (Indication of the location of all administrative and social units and technical infrastructure units within the project area on the site plan,) (Specifying the coordinates of the facilities within the project area separately and showing the existing roads between the turbines and the roads to be constructed, if any, on the site plan and on the topographic map,)

The project area is located on the 1/25.000 scale L34 c3 and M34 b2 maps. In the UTM 6 ED50 and Geographic WGS84 coordinate system, Power Plant Area coordinates, Turbines, Switchyard and Administrative Building Coordinates and Excavation Area Coordinates are given in Table II.2.1 to Table II.2.21. The project area location is marked on the 1/25.000 Scale Map and is given in ANNEX:3.

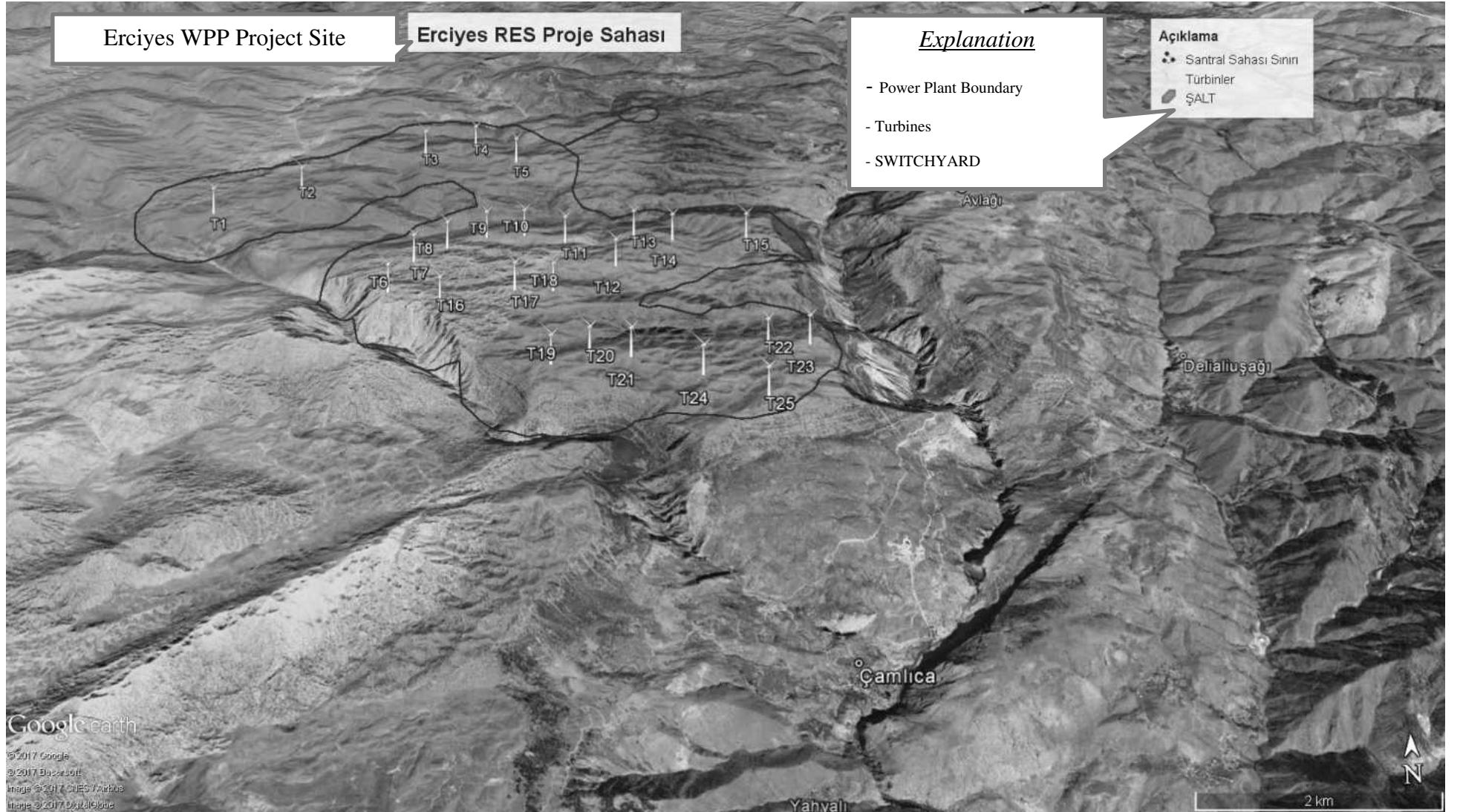


Figure II.2.1. Project Area and Its Surroundings Satellite Image

Table II.2.1. Turbine Coordinates

Turbine Coordinates					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
T1	710597.000	4206733.000	T1	37.9822446	35.3975106
T2	711672.000	4207159.000	T2	37.9858306	35.4098664
T3	713175.000	4208218.000	T3	37.9950149	35.4272810
T4	713860.000	4208403.000	T4	37.9965195	35.4351305
T5	714470.000	4208045.000	T5	37.9931518	35.4419647
T6	713260.000	4204671.000	T6	37.9630550	35.4271954
T7	713470.000	4205323.000	T7	37.9688768	35.4297775
T8	713827.000	4205682.000	T8	37.9720255	35.4339450
T9	714276.000	4206030.000	T9	37.9750533	35.4391562
T10	714758.000	4206064.000	T10	37.9752455	35.4446494
T11	715290.000	4205928.000	T11	37.9738949	35.4506604
T12	715955.000	4205415.000	T12	37.9691176	35.4580709
T13	716169.000	4206083.000	T13	37.9750817	35.4607059
T14	716671.000	4205977.000	T14	37.9740076	35.4663844
T16	713902.000	4204447.000	T15	37.9735804	35.4772751
T15	717629.000	4205955.000	T16	37.9608870	35.4344307
T17	714754.000	4204790.000	T17	37.9637745	35.4442233
T18	715217.000	4204809.000	T18	37.9638360	35.4494950
T19	715285.000	4203389.000	T19	37.9510333	35.4498434
T20	715714.000	4203541.000	T20	37.9523003	35.4547675
T21	716188.000	4203548.000	T21	37.9522506	35.4601599
T22	717772.000	4203699.000	T22	37.9532320	35.4782185
T23	718260.000	4203719.000	T23	37.9532950	35.4837740
T24	717008.000	4203189.000	T24	37.9488225	35.4693765
T25	717721.000	4202773.000	T25	37.9449061	35.4773584

Table II.2.2. Coordinates Of Power Plant Site (EIA Area)

COORDINATES OF POWER PLANT SITE (EIA AREA)					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
K1	713840.360	4209376.740	K1	38.0052924	35.4351972
K2	713915.500	4209366.380	K2	38.0051813	35.4360492
K3	714256.670	4209274.490	K3	38.0042734	35.4399044
K4	714320.240	4209249.500	K4	38.0040333	35.4406203
K5	714379.720	4209206.750	K5	38.0036343	35.4412844
K6	714592.210	4208988.890	K6	38.0016223	35.4436374
K7	715126.400	4208529.510	K7	37.9973592	35.4495786
K8	715983.810	4209303.110	K8	38.0041214	35.4595678
K9	715942.570	4209340.780	K9	38.0044704	35.4591098
K10	715903.710	4209501.010	K10	38.0059225	35.4587158
K11	715944.330	4209656.230	K11	38.0073105	35.4592248
K12	716044.590	4209756.060	K12	38.0081855	35.4603958
K13	716123.290	4209783.900	K13	38.0084174	35.4612999
K14	716219.440	4209809.560	K14	38.0086256	35.4624019
K15	716369.980	4209765.790	K15	38.0081955	35.4641019
K16	716481.730	4209654.020	K16	38.0071624	35.4653399
K17	716520.660	4209508.350	K17	38.0058415	35.4657390
K18	716486.590	4209347.970	K18	38.0044055	35.4653029
K19	716370.030	4209226.600	K19	38.0033404	35.4639399
K20	716219.390	4209187.730	K20	38.0030263	35.4622139
K21	716056.690	4209228.970	K21	38.0034364	35.4603748
K22	715988.700	4209294.580	K22	38.0040434	35.4596209
K23	715141.020	4208514.900	K23	37.9972242	35.4497406
K24	715379.020	4208131.150	K24	37.9937122	35.4523337
K25	715388.770	4207781.350	K25	37.9905601	35.4523397
K26	715359.590	4207548.140	K26	37.9884671	35.4519377
K27	715330.400	4207315.040	K27	37.9863751	35.4515357
K28	715388.710	4207130.450	K28	37.9846991	35.4521438
K29	715485.880	4206965.190	K29	37.9831879	35.4531997
K30	715621.690	4206898.820	K30	37.9825580	35.4547248
K31	715679.750	4206887.020	K31	37.9824380	35.4553818
K32	715753.880	4206856.100	K32	37.9821419	35.4562159
K33	715826.000	4206804.590	K33	37.9816609	35.4570209
K34	715926.910	4206711.410	K34	37.9807979	35.4581409

K35	715959.860	4206745.380	K35	37.9810959	35.4585259
K36	716019.580	4206790.710	K36	37.9814899	35.4592190
K37	716094.750	4206823.130	K37	37.9817639	35.4600839
K38	716431.480	4206910.670	K38	37.9824720	35.4639410
K39	716507.700	4206920.020	K39	37.9825380	35.4648110
K40	716584.930	4206911.730	K40	37.9824449	35.4656871
K41	716619.920	4206901.450	K41	37.9823440	35.4660821
K42	716889.790	4206877.840	K42	37.9820669	35.4691451
K43	717074.460	4206838.880	K43	37.9816720	35.4712342
K44	717190.990	4206780.680	K44	37.9811200	35.4725423
K45	717443.660	4206838.930	K45	37.9815841	35.4754344
K46	717754.500	4206858.300	K46	37.9816840	35.4789764
K47	718026.600	4206751.500	K47	37.9806570	35.4820395
K48	718337.430	4206528.020	K48	37.9785699	35.4855076
K49	718463.750	4206314.280	K49	37.9766150	35.4868796
K50	718541.520	4206013.050	K50	37.9738839	35.4876727
K51	718531.770	4205809.100	K51	37.9720498	35.4874998
K52	718343.840	4205563.760	K52	37.9698858	35.4852876
K53	718275.880	4205508.070	K53	37.9694007	35.4844977
K54	718210.040	4205484.440	K54	37.9692038	35.4837416
K55	717864.020	4205387.590	K55	37.9684148	35.4797765
K56	717793.930	4205375.280	K56	37.9683208	35.4789755
K57	717714.640	4205387.610	K57	37.9684508	35.4780774
K58	717606.530	4205419.490	K58	37.9687638	35.4768574
K59	717499.420	4205390.640	K59	37.9685297	35.4756304
K60	717419.200	4205378.860	K60	37.9684428	35.4747144
K61	717350.890	4205388.590	K61	37.9685468	35.4739403
K62	717295.540	4205396.880	K62	37.9686346	35.4733133
K63	717143.440	4205248.030	K63	37.9673307	35.4715383
K64	717087.450	4205184.790	K64	37.9667747	35.4708823
K65	716996.410	4205109.960	K65	37.9661226	35.4698243
K66	716894.490	4205074.170	K66	37.9658247	35.4686542
K67	716817.700	4205045.690	K67	37.9655866	35.4677722
K68	716723.400	4204951.130	K68	37.9647576	35.4666712
K69	716652.940	4204902.620	K69	37.9643376	35.4658552
K70	716564.330	4204865.510	K70	37.9640246	35.4648362
K71	716401.600	4204818.110	K71	37.9636366	35.4629711
K72	716348.070	4204764.610	K72	37.9631676	35.4623461
K73	716350.130	4204739.900	K73	37.9629446	35.4623621
K74	716339.810	4204667.770	K74	37.9622975	35.4622230
K75	716304.740	4204527.800	K75	37.9610455	35.4617821
K76	716425.040	4204500.670	K76	37.9607726	35.4631421
K77	716484.720	4204514.790	K77	37.9608855	35.4638251
K78	716560.640	4204526.690	K78	37.9609746	35.4646922

K79	716636.490	4204514.700	K79	37.9608485	35.4655512
K80	716981.270	4204428.000	K80	37.9599855	35.4694463
K81	717008.480	4204433.060	K81	37.9600246	35.4697573
K82	717062.540	4204423.720	K82	37.9599276	35.4703693
K83	717122.730	4204485.170	K83	37.9604665	35.4710724
K84	717221.880	4204569.000	K84	37.9611976	35.4722253
K85	717297.830	4204599.330	K85	37.9614526	35.4730983
K86	717632.770	4204691.410	K86	37.9622015	35.4769355
K87	717709.770	4204699.020	K87	37.9622516	35.4778135
K88	717787.870	4204688.210	K88	37.9621355	35.4786985
K89	718122.470	4204597.740	K89	37.9612406	35.4824765
K90	718196.610	4204567.850	K90	37.9609537	35.4833107
K91	718251.220	4204527.760	K91	37.9605796	35.4839196
K92	718504.550	4204274.430	K92	37.9582376	35.4867237
K93	718553.970	4204211.560	K93	37.9576596	35.4872667
K94	718581.800	4204144.560	K94	37.9570496	35.4875628
K95	718675.460	4203795.560	K95	37.9538845	35.4885219
K96	718685.810	4203727.530	K96	37.9532694	35.4886189
K97	718677.550	4203651.340	K97	37.9525854	35.4885018
K98	718587.450	4203314.540	K98	37.9495744	35.4873749
K99	718555.470	4203240.380	K99	37.9489143	35.4869887
K100	718508.610	4203180.710	K100	37.9483883	35.4864377
K101	718335.940	4203007.400	K101	37.9468692	35.4844217
K102	718321.430	4202951.490	K102	37.9463693	35.4842397
K103	718291.970	4202878.620	K103	37.9457202	35.4838827
K104	718245.080	4202816.630	K104	37.9451733	35.4833307
K105	717995.970	4202567.210	K105	37.9429872	35.4804226
K106	717934.250	4202520.260	K106	37.9425792	35.4797066
K107	717859.930	4202490.620	K107	37.9423301	35.4788526
K108	717524.370	4202405.520	K108	37.9416442	35.4750115
K109	717439.660	4202395.930	K109	37.9415781	35.4740454
K110	717369.900	4202403.410	K110	37.9416622	35.4732545
K111	717042.170	4202496.880	K111	37.9425822	35.4695563
K112	717012.280	4202489.650	K112	37.9425242	35.4692143
K113	716936.080	4202501.070	K113	37.9426452	35.4683513
K114	716597.010	4202588.250	K114	37.9435111	35.4645222
K115	716558.920	4202585.260	K115	37.9434933	35.4640882
K116	716483.280	4202595.460	K116	37.9436031	35.4632312
K117	716281.130	4202650.310	K117	37.9441451	35.4609491
K118	716201.880	4202617.350	K118	37.9438672	35.4600381
K119	716080.310	4202588.250	K119	37.9436341	35.4586470
K120	715793.000	4202524.260	K120	37.9431261	35.4553610
K121	715745.270	4202532.990	K121	37.9432161	35.4548209
K122	715485.090	4202460.840	K122	37.9426281	35.4518409

K123	715421.220	4202451.610	K123	37.9425601	35.4511119
K124	715344.020	4202460.910	K124	37.9426622	35.4502369
K125	715266.790	4202481.410	K125	37.9428651	35.4493649
K126	715110.080	4202447.200	K126	37.9425941	35.4475728
K127	714788.750	4202533.040	K127	37.9434431	35.4439447
K128	714567.750	4202700.050	K128	37.9449992	35.4414815
K129	714334.530	4202972.020	K129	37.9475032	35.4389106
K130	714276.250	4203283.000	K130	37.9503172	35.4383405
K131	714256.810	4203545.250	K131	37.9526833	35.4381975
K132	714084.420	4203580.260	K132	37.9530392	35.4362475
K133	713859.130	4203529.730	K133	37.9526373	35.4336704
K134	713748.560	4203544.390	K134	37.9527953	35.4324173
K135	713379.690	4203658.250	K135	37.9539073	35.4282562
K136	713107.250	4203895.360	K136	37.9561064	35.4252282
K137	713006.320	4204012.780	K137	37.9571874	35.4241151
K138	712975.460	4204086.940	K138	37.9578624	35.4237861
K139	712887.870	4204408.260	K139	37.9607764	35.4228850
K140	712713.890	4204451.490	K140	37.9612064	35.4209190
K141	712639.700	4204484.430	K141	37.9615204	35.4200850
K142	712559.350	4204548.310	K142	37.9621144	35.4191900
K143	712381.680	4204740.370	K143	37.9638855	35.4172259
K144	712371.960	4205002.650	K144	37.9662495	35.4171928
K145	712430.270	4205235.820	K145	37.9683356	35.4179250
K146	712517.760	4205478.750	K146	37.9705026	35.4189920
K147	712614.850	4205663.290	K147	37.9721417	35.4201510
K148	712780.010	4205877.030	K148	37.9740277	35.4220930
K149	712964.640	4206051.980	K149	37.9755598	35.4242451
K150	713129.800	4206207.420	K150	37.9769207	35.4261700
K151	713254.540	4206379.380	K151	37.9784399	35.4276401
K152	713304.910	4206443.430	K152	37.9790048	35.4282322
K153	713374.010	4206506.980	K153	37.9795608	35.4290371
K154	713546.680	4206684.180	K154	37.9811158	35.4310542
K155	713611.740	4206733.970	K155	37.9815489	35.4318091
K156	713814.420	4206799.020	K156	37.9820869	35.4341343
K157	714067.400	4206926.360	K157	37.9831739	35.4370503
K158	714038.250	4207052.640	K158	37.9843179	35.4367563
K159	713999.340	4207179.010	K159	37.9854650	35.4363513
K160	713781.950	4207368.000	K160	37.9872180	35.4339342
K161	713738.140	4207409.720	K161	37.9876040	35.4334482
K162	713694.260	4207454.430	K162	37.9880170	35.4329623
K163	713523.160	4207385.660	K163	37.9874380	35.4309951
K164	713290.550	4207326.720	K164	37.9869620	35.4283311
K165	713163.800	4207266.440	K165	37.9864489	35.4268711
K166	713018.110	4207217.890	K166	37.9860460	35.4251991

K167	712814.080	4207198.360	K167	37.9859180	35.4228720
K168	712716.900	4207062.340	K168	37.9847159	35.4217260
K169	712668.350	4206887.500	K169	37.9831529	35.4211219
K170	712551.720	4206664.020	K170	37.9811678	35.4197289
K171	712446.500	4206559.440	K171	37.9802507	35.4185009
K172	712260.860	4206369.500	K172	37.9785838	35.4163328
K173	712212.840	4206326.710	K173	37.9782097	35.4157739
K174	712147.160	4206299.690	K174	37.9779817	35.4150187
K175	711984.230	4206253.930	K175	37.9776077	35.4131517
K176	711891.010	4206187.990	K176	37.9770357	35.4120717
K177	711764.710	4206173.390	K177	37.9769337	35.4106306
K178	711594.740	4206168.540	K178	37.9769297	35.4086956
K179	711507.310	4206085.990	K179	37.9762067	35.4076767
K180	711405.380	4206039.810	K180	37.9758146	35.4065036
K181	711357.260	4206044.680	K181	37.9758697	35.4059576
K182	711218.000	4206007.990	K182	37.9755717	35.4043626
K183	711122.800	4205915.900	K183	37.9747646	35.4032525
K184	711004.760	4205870.880	K184	37.9743866	35.4018965
K185	710812.780	4205822.840	K185	37.9739986	35.3996985
K186	710733.450	4205772.820	K186	37.9735666	35.3987814
K187	710599.970	4205733.180	K187	37.9732406	35.3972513
K188	710375.370	4205760.490	K188	37.9735386	35.3947043
K189	710100.740	4205877.020	K189	37.9746516	35.3916143
K190	709737.450	4206238.830	K190	37.9779937	35.3875871
K191	709604.440	4206733.030	K191	37.9824747	35.3862181
K192	709737.400	4207227.190	K192	37.9868939	35.3878751
K193	710098.160	4207553.280	K193	37.9897469	35.3920752
K194	710134.840	4207586.100	K194	37.9900339	35.3925021
K195	710207.510	4207617.620	K195	37.9903009	35.3933382
K196	710395.580	4207669.100	K196	37.9907209	35.3954932
K197	710447.640	4207722.760	K197	37.9911920	35.3961013
K198	710512.140	4207770.500	K198	37.9916070	35.3968492
K199	710580.470	4207796.470	K199	37.9918250	35.3976343
K200	710928.460	4207886.410	K200	37.9925540	35.4016204
K201	710997.850	4207898.420	K201	37.9926461	35.4024134
K202	711059.650	4207890.800	K202	37.9925631	35.4031144
K203	711121.400	4207905.930	K203	37.9926849	35.4038215
K204	711174.510	4207959.060	K204	37.9931510	35.4044414
K205	711233.130	4208003.560	K205	37.9935381	35.4051215
K206	711303.560	4208032.800	K206	37.9937850	35.4059315
K207	711464.780	4208075.400	K207	37.9941310	35.4077786
K208	711531.210	4208136.870	K208	37.9946691	35.4085526
K209	712102.410	4208318.150	K209	37.9961681	35.4151057
K210	712682.590	4209071.410	K210	38.0028152	35.4219308

K211	712758.470	4209103.940	K211	38.0030903	35.4228040
K212	713014.090	4209215.100	K212	38.0040313	35.4257459
K213	713060.000	4209233.850	K213	38.0041893	35.4262740
K214	713395.950	4209327.690	K214	38.0049554	35.4301250
K215	713477.280	4209339.260	K215	38.0050404	35.4310540
K216	713558.700	4209327.720	K216	38.0049173	35.4319772
K217	713583.670	4209320.380	K217	38.0048453	35.4322592
K218	713762.110	4209371.580	K218	38.0052643	35.4343051
Area: 32,562 km²					

Table II.2.3. Switchyard Coordinates

COORDINATES OF SWITCHYARD AREA, ADMINISTRATION BUILDING AND CONTROL ROOM					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ŞALT-1	716324.042	4205656.541	ŞALT-1	37.9712047	35.4623412
ŞALT-2	716350.764	4205655.399	ŞALT-2	37.9711881	35.4626448
ŞALT-3	716359.294	4205654.729	ŞALT-3	37.9711800	35.4627417
ŞALT-4	716370.408	4205652.855	ŞALT-4	37.9711605	35.4628675
ŞALT-5	716468.499	4205620.462	ŞALT-5	37.9708454	35.4639735
ŞALT-6	716474.447	4205618.633	ŞALT-6	37.9708275	35.4640406
ŞALT-7	716486.613	4205616.047	ŞALT-7	37.9708014	35.4641782
ŞALT-8	716492.790	4205615.299	ŞALT-8	37.9707931	35.4642483
ŞALT-9	716499.000	4205614.918	ŞALT-9	37.9707882	35.4643188
ŞALT-10	716505.222	4205614.905	ŞALT-10	37.9707866	35.4643896
ŞALT-11	716498.669	4205561.656	ŞALT-11	37.9703087	35.4642990
ŞALT-12	716459.603	4205482.596	ŞALT-12	37.9696061	35.4638308
ŞALT-13	716404.757	4205462.734	ŞALT-13	37.9694404	35.4632010
ŞALT-14	716275.575	4205503.803	ŞALT-14	37.9698409	35.4617440
Area: 31.044 m²					

Table II.2.4. Coordinates Of Excavation Area-1

COORDINATES OF EXCAVATION AREA-1					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF1-1	711028.785	4206972.204	HRF1-1	37.9842984	35.4024933
HRF1-2	711100.689	4206993.530	HRF1-2	37.9844737	35.4033176
HRF1-3	711112.063	4206955.182	HRF1-3	37.9841257	35.4034357
HRF1-4	711040.159	4206933.855	HRF1-4	37.9839504	35.4026114
AREA: 3.000 m ²					

Table II.2.5. Coordinates Of Excavation Area-2

COORDINATES OF EXCAVATION AREA-2					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF2-1	713544.789	4208394.201	HRF2-1	37.9965145	35.4315411
HRF2-2	713584.789	4208394.034	HRF2-2	37.9965036	35.4319962
HRF2-3	713584.476	4208319.035	HRF2-3	37.9958283	35.4319704
HRF2-4	713544.477	4208319.201	HRF2-4	37.9958393	35.4315153
AREA: 3.000 m ²					

Table II.2.6. Coordinates Of Excavation Area-3

COORDINATES OF EXCAVATION AREA-3					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF3-1	714447.380	4205976.412	HRF3-1	37.9745302	35.4410898
HRF3-2	714521.906	4205967.994	HRF3-2	37.9744368	35.4419350
HRF3-3	714517.416	4205928.246	HRF3-3	37.9740800	35.4418721
HRF3-4	714442.890	4205936.664	HRF3-4	37.9741734	35.4410268
AREA: 3.000 m ²					

Table II.2.7. Coordinates Of Excavation Area-4

COORDINATES OF EXCAVATION AREA-4					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF4-1	715465.048	4205337.656	HRF4-1	37.9685376	35.4524747
HRF4-2	715539.286	4205348.323	HRF4-2	37.9686160	35.4533223
HRF4-3	715544.975	4205308.730	HRF4-3	37.9682581	35.4533752
HRF4-4	715470.737	4205298.063	HRF4-4	37.9681797	35.4525275
AREA: 3.000 m ²					

Table II.2.8. Coordinates Of Excavation Area-5

COORDINATES OF EXCAVATION AREA-5					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF5-1	717469.803	4205732.929	HRF5-1	37.9716189	35.4753970
HRF5-2	717543.234	4205748.189	HRF5-2	37.9717387	35.4762369
HRF5-3	717551.372	4205709.025	HRF5-3	37.9713841	35.4763176
HRF5-4	717477.941	4205693.766	HRF5-4	37.9712643	35.4754778
AREA: 3.000 m ²					

Table II.2.9. Coordinates Of Excavation Area-6

COORDINATES OF EXCAVATION AREA-6					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF6-1	716751.896	4203407.251	HRF6-1	37.9508489	35.4665300
HRF6-2	716826.140	4203396.624	HRF6-2	37.9507355	35.4673711
HRF6-3	716820.472	4203357.027	HRF6-3	37.9503803	35.4672947
HRF6-4	716746.229	4203367.654	HRF6-4	37.9504937	35.4664536
AREA: 3.000 m ²					

Table II.2.10. Coordinates Of Excavation Area-7

COORDINATES OF EXCAVATION AREA-7					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF7-1	718007.942	4203557.728	HRF7-1	37.9519034	35.4808588
HRF7-2	718067.484	4203603.333	HRF7-2	37.9522997	35.4815497
HRF7-3	718091.806	4203571.577	HRF7-3	37.9520080	35.4818167
HRF7-4	718032.264	4203525.973	HRF7-4	37.9516116	35.4811258
AREA: 3.000 m ²					

Table II.2.11. Coordinates of Vegetative Soil Stock Area-1

COORDINATES OF VEGETABLE SOIL STOCK AREA-1					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS1-1	711090.383	4207059.755	BS1-1	37.9850724	35.4032198
BS1-2	711187.020	4207085.473	BS1-2	37.9852815	35.4043269
BS1-3	711212.738	4206988.837	BS1-3	37.9844054	35.4045910
BS1-4	711116.101	4206963.119	BS1-4	37.9841962	35.4034840
AREA: 10.000 m ²					

Table II.2.12. Coordinates of Vegetative Soil Stock Area-2

COORDINATES OF VEGETABLE SOIL STOCK AREA-2					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS2-1	713540.604	4208313.402	BS2-1	37.9957879	35.4314695
BS2-2	713640.368	4208306.548	BS2-2	37.9957027	35.4326026
BS2-3	713633.514	4208206.783	BS2-3	37.9948060	35.4324950
BS2-4	713533.749	4208213.637	BS2-4	37.9948912	35.4313618
AREA: 10.000 m²					

Table II.2.13. Coordinates of Vegetative Soil Stock Area-3

COORDINATES OF VEGETABLE SOIL STOCK AREA-3					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS3-1	714529.103	4205967.299	BS3-1	37.9744289	35.4420167
BS3-2	714628.784	4205959.322	BS3-2	37.9743335	35.4431482
BS3-3	714620.807	4205859.641	BS3-3	37.9734378	35.4430277
BS3-4	714521.126	4205867.618	BS3-4	37.9735332	35.4418962
AREA: 10.000 m²					

Table II.2.14. Coordinates of Vegetative Soil Stock Area-4

COORDINATES OF VEGETABLE SOIL STOCK AREA-4					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS4-1	715542.414	4205350.376	BS4-1	37.9686337	35.4533585
BS4-2	715640.881	4205367.819	BS4-2	37.9687674	35.4544838
BS4-3	715658.324	4205269.352	BS4-3	37.9678766	35.4546526
BS4-4	715559.857	4205251.909	BS4-4	37.9677429	35.4535274
AREA: 10.000 m ²					

Table II.2.15. Coordinates of Vegetative Soil Stock Area-5

COORDINATES OF VEGETABLE SOIL STOCK AREA-5					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS5-1	717545.807	4205749.376	BS5-1	37.9717488	35.4762666
BS5-2	717642.028	4205776.608	BS5-2	37.9719709	35.4773693
BS5-3	717669.259	4205680.387	BS5-3	37.9710980	35.4776499
BS5-4	717573.038	4205653.156	BS5-4	37.9708758	35.4765472
AREA: 10.000 m ²					

Table II.2.16. Coordinates of Vegetative Soil Stock Area-6

COORDINATES OF VEGETABLE SOIL STOCK AREA-6					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS6-1	716829.230	4203391.287	BS6-1	37.9506867	35.4674046
BS6-2	716928.976	4203384.167	BS6-2	37.9505988	35.4685368
BS6-3	716921.856	4203284.421	BS6-3	37.9497023	35.4684257
BS6-4	716822.109	4203291.541	BS6-4	37.9497902	35.4672936
AREA: 10.000 m ²					

Table II.2.17. Coordinates of Vegetative Soil Stock Area-7

COORDINATES OF VEGETABLE SOIL STOCK AREA-7					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS7-1	718071.856	4203605.040	BS7-1	37.9523141	35.4816000
BS7-2	718153.599	4203662.642	BS7-2	37.9528131	35.4825470
BS7-3	718211.202	4203580.900	BS7-3	37.9520632	35.4831772
BS7-4	718129.459	4203523.297	BS7-4	37.9515642	35.4822302
AREA: 10.000 m ²					

Table II.2.18. Construction Site Coordinates

CONSTRUCTION AREA COORDINATES					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ŞANT-1	716517.742	4205612.489	ŞANT-1	37.9707619	35.4645312
ŞANT-2	716542.742	4205612.489	ŞANT-2	37.9707559	35.4648156
ŞANT-3	716542.742	4205592.489	ŞANT-3	37.9705758	35.4648096
ŞANT-4	716517.742	4205592.489	ŞANT-4	37.9705818	35.4645252
AREA : 500 m ²					

Table II.2.19. Coordinates Of Septic Tank

COORDINATES OF LEAKPROOF FOSCEPTIC					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
FS-1	716519.042	4205590.129	FS-1	37.9705602	35.4645393
FS-2	716529.042	4205590.129	FS-2	37.9705579	35.4646530
FS-3	716529.042	4205585.129	FS-3	37.9705128	35.4646515
FS-4	716519.042	4205585.129	FS-4	37.9705152	35.4645378
AREA : 50 m ²					

Table II.2.20. Coordinates Of Temporary Waste Storage Area

COORDINATES OF TEMPORARY WASTE STORAGE AREA					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
GÇ-1	716506.373	4205610.041	GÇ-1	37.9707426	35.4644012
GÇ-2	716516.373	4205610.041	GÇ-2	37.9707402	35.4645149
GÇ-3	716516.373	4205600.041	GÇ-3	37.9706501	35.4645119
GÇ-4	716506.373	4205600.041	GÇ-4	37.9706525	35.4643982
AREA : 100 m²					

Table II.2.21. Wind Measurement Station Coordinates

WIND MEASURING STATION COORDINATES					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle meridian	33		Middle meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N (Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ROI-1	714645.000	4208036.000	ROI-1	37.9930294	35.4439532
ROI-2	713821.000	4205488.000	ROI-2	37.9702800	35.4338191
ROI-3	716437.000	4205922.000	ROI-3	37.9735681	35.4637060
ROI-4	714735.000	4203753.000	ROI-4	37.9544412	35.4436976

PART III: ECONOMIC AND SOCIAL DIMENSIONS OF THE PROJECT**III.1. Investment Program for the Realization of the Project, Financial Resources, where these resources shall be obtained.**

As a result of the pre-license application made to EMRA for the project, 36 months pre-construction pre-license period has been given. (See Appendix:6) in accordance with the EMRA Board Decision dated 21.11.2013 and numbered 4711. After the obligations determined in the Electricity Market License Regulation published in the Official Gazette dated 02.11.2013 and numbered 28809 are completed, An application shall be made to EMRA to obtain a 49-year production license. In accordance with the EMRA Board Decision dated 21.11.2013 and numbered 4711, During the production license phase, the project shall be given 38 months for the construction period.

In the project, it is planned to use equity capital and bank loans from the funds allocated from domestic and foreign sources within the scope of renewable energy as a financial resource.

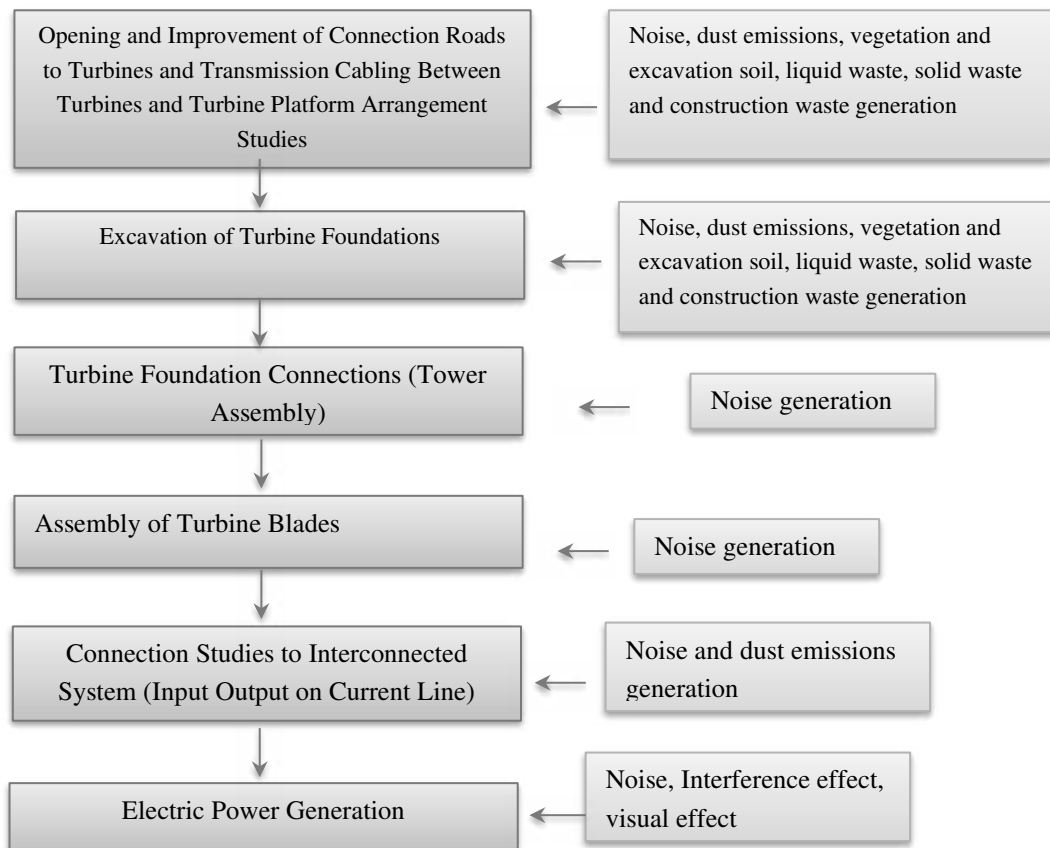
III.2. Work flow chart or schedule table related to the realization of the project,

Figure III.2.1. Project Work Flow Chart

Table-III.2.1. Project Timing Table

PROJECT IMPLEMENTATION ITEMS	Years 2017 -2018																							
	MONTHS																							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1. PRE-CONSTRUCTION PERIOD																								
EIA PROCESS									X	X	X	X	X	X	X									
2. CONSTRUCTION PERIOD																								
PRELIMINARY PREPARATION AND SITE INSTALLATION																X	X							
OPENING AND IMPROVEMENT OF IN-SITE CONNECTION ROADS AND TRANSMISSION LINE (WIBLING) WORKS BETWEEN TURBINES																			X	X	X	X	X	
EXCAVATION OF TURBINE FOUNDATIONS																						X	X	X
SWITCH AREA TRANSFORMER AND SOCIAL FACILITY CONSTRUCTION																						X	X	X

PROJECT IMPLEMENTATION ITEMS	YEARS 2019 -2020																							
	MONTHS																							
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
EXCAVATION OF TURBINE FOUNDATIONS	X																							
SWITCH AREA TRANSFORMER AND SOCIAL FACILITY CONSTRUCTION	X	X	X																					
MOBILIZATION OF TURBINE TOWER AND BLADES	X	X	X	X	X																			
TURBINE TOWER INSTALLATIONS						X	X	X	X	X	X													
TURBINE BLADES INSTALLATIONS								X	X	X	X	X	X											
CONNECTION TO THE ENTERCONNECTED SYSTEM													X	X	X									
TRANSITION TO PRODUCTION																X								

III.3. Benefit-cost analysis of the project,

For the ERCIYES Wind Power Plant project, which is the subject of the EIA Report, it shall consist of 25 turbines, each with a capacity of 2.6 MW. The total installed power of the project is 65 MWm. According to this, The total cost of the project made over the investment costs per MWm determined by the project finance department has been determined as 162,500,000 TL. ¹

Project Investment Amount:	: 162.500.000 TL
Number of Turbines	: 25
Turbine MW_m capacity	: 2,6 MWm
Total Capacity	: 65 MWm
Investment Cost per MWm	: 2.500.000 TL
Investment Cost of 1 Turbine	: 6.500.000 TL

These costs have been calculated by taking into account the construction costs, turbine installations, survey project and consultancy service costs, expropriation costs and other expenses. Key components of installation costs are listed as reinforced concrete foundation (to accommodate the tower), road construction (to carry the heavy and bulky turbine), transformer (to change the voltage level), communication connections (to remotely control the turbine and monitor its condition), cable costs (from turbine to transformer and from transformer to transmission line). The construction costs of the road and the foundation on which the tower will be erected depend entirely on the conditions of the soil. The variable that will affect the cost is the distance from the place where the turbine will be installed to the roads (it is necessary to bring a crane to the installation site for installation) and the distance to the transmission line that will transmit the energy to be produced in the power plant. Such variables have an effect on the investment cost of the project and each project submits different costs.

While calculating the income to be generated from the project, The bid submitted in the tender in terms of KW/hour determined by YEKDEM (Renewable Energy Resources Support Mechanism) shall generate 2.9 Dollars/cent and 2.1 Dollars/cent as contribution. Therefore, The energy produced shall be 5 Dollars/cent in kW/hour. In the project, 227,500,000 kWh of energy shall be produced annually, and 11,375,000 \$/year income shall be obtained in return.

1\$=3,9191 TL at the CBRT (Central Bank of Turkey Republic) exchange rate dated 04.12.2017.

$$11.375.000 \$ \times 3.9191 \text{ TL} = \mathbf{44.579.762.5 \text{ TL/year}}$$

When \$0.01 per MWm is foreseen as Operation and Maintenance expenses;

It shall be 227,500,000 TL x 0.01 \$ = 2,275,000 \$/year.

It shall be 2,275,000 \$ x 3,9191 TL = 8,915,952,5 TL/year.

The income to be obtained from the said project shall be as follows.

$$44.579.762.5 \text{ TL/year} - 8.915.952.5 \text{ TL/year} = 35.663.810 \text{ TL/year.}$$

¹ EPDK Board Decision dated 21.11.2013, Decision No: 4709-4

The return of the investment amount after the final acceptance of the project and the start of production;

162,500,000 TL/year / 35,663,810 TL/year = shall pay for itself in 4.5 years.

With the realization of the project, the electricity of approximately 50,000 households shall be met and according to this production amount to be obtained from fossil fuels, approximately 80,000 tons of carbon dioxide emissions shall be prevented.

III.4. Other economic, social and infrastructure activities that are not within the scope of the project but are planned to be carried out by the investor company or other companies depending on the realization of the project,

It is thought that the construction of in-site connection roads by the investor company within the scope of the project shall also contribute to the transportation of the local people.

III.5. Other economic, social and infrastructure projects that are not within the scope of the project but are essential for the realization of the project and planned to be realized by the project owner or other investors,

There is no economic, social and infrastructure project that is not within the scope of the project but is essential for the realization of the project.

III.6. How to expropriate and resettle, public information methods within the scope of expropriation, possible site overlap with other existing facilities,IV

Turbine areas in the project site remain in pasture and forest areas. Forest permit and pasture allocation purpose change permit procedures shall be continued after the EIA process. In the project, there is no private land related to the turbine areas, and no expropriation procedures shall be carried out. In the project, There are privately owned lands only in the opening of the roads between the turbines and the expropriation shall be carried out in this context.

Expropriation plans regarding the ownership of the lands in the project area are being prepared and shall be submitted to EPDK. The expropriation process shall be carried out within the scope of the Expropriation Law No. 2942 in the expropriations made by the Energy Market Regulatory Authority and expropriation costs shall be paid in advance, and the landowners shall not incur financial losses.

III.7. Other considerations.

There are no other matters that need to be disclosed.

PART IV: DETERMINATION OF THE AREA TO BE AFFECTED BY THE WIND POWER PLANT AND EXPLANATION OF THE CURRENT ENVIRONMENTAL FEATURES OF THE AREA ⁽¹⁾**IV.1. Determining the area to be affected by the project (How and according to what the impact area is determined will be explained and the impact area shall be shown on the map),**

When determined the area to be affected by the project, The impact area of the project has been tried to be determined by taking into account the characteristics of the existing environment, the environmental effects of the project during the construction and operation phases, and the public that may be directly or indirectly affected by the project area.

Ownership status, ecological structure, socio-cultural structure and position of the project area in terms of protected areas have been evaluated in the relevant sections of the report. Access to the project area is provided via the Yahyalı-Çamlıca village road (without reaching Çamlıca Village). Çamlıca Village is the settlement where it will interact the most in the transportation of turbines etc. and road use processes to be made during the construction phase.

Considering the environmental impacts of the project, Since solid and liquid wastes shall be disposed of in line with the laws and regulations in force without mixing with any receiving environment, there shall be no load that will spread to the immediate surroundings of the project area. The power plant site and turbine areas are located away from the settlements. There are no effects that will disturb the local people. In the project, there is no direct interaction of the activity with the region, except for short-term temporary effects during the construction phase. The area to be affected by the project will be limited with the Power Plant area marked on the Topographic Map given in Annex: 3. There is no waste, emission or noise etc. effect that will spread out of the site.

In the preparation of the EIA Report, It has been carried out by covering the characteristics of the current environment and Yahyalı District and Kayseri Province. The locations and distances of the settlements around the area selected as the wind power plant are given in the table below.

⁽¹⁾ In this section, the impact area should be taken into account while giving the environmental characteristics of the place selected for the project. While explaining the issues listed in this section, it is stated in the notes section of the report from which institution and source the information obtained from the relevant public institutions and organizations, research institutions, universities or other similar institutions is obtained or the relevant maps, documents, etc. processed into the document. If the project owner wants to provide information based on his own research, a document stating the accuracy of this information is obtained from the relevant institutions and organizations for those under the authority of public institutions and organizations, and added to the report.)

Table IV.1.1. Settlements Around the Project Site, Location and Distance to the Nearest Facility**

Residential area	Nearest Turbine No.	Distance to Nearest Turbine (m)	Position Relative to Nearest Turbine
Kayseri Province, Yahyalı Disctict			
Çamlıca District	T25	3.000	South
Avlağı District	T15	3.000	Northeast
Yenice District (Yahyalı center)	T3	11.000	Northwest

**** 1/25.000 Scale Topographic Map and Google Earth have been taken as reference in the measurement of distances.**

The closest settlement to the project area is the houses of Çamlıca Neighborhood, which is approximately 3,000 meters south of the T-25 turbine. There is no interaction with the project as there is a natural barrier Zamantı River valley between Avlağı Neighborhood and the project area.

IV.1.1. If there are mines in the project area , their effects on the project, measures to be taken,

Within the scope of the project, it was stated in the opinion received from the General Directorate of Mining Affairs on 16.11.2017 that there were no overlapping mining licenses in the project area. Within the scope of the on-site inspection technical report, It has been stated that there is no objection for the establishment of WPP and that Erciyes WPP numbered ER:3365280 is processed as a special permit area. Opinion letter of General Directorate of Mining Affairs is presented in Appendix:18. It shall be complied with the Provisions of Mining Law No. 3213 and Mining Regulation amended by Law No. 6592 in the Project.

IV.2. Characteristics of the physical and biological environment within the impact area and the use of natural resources,

IV.2.1. Geological features of the project area (Tectonic movements, topographic features, mineral resources, landslides, unique formations, avalanches, floods, rockfalls etc. 1/25,000 geological map and a large scale (1/5,000) geological map of the study area and stratigraphic column sections, Geological and Geotechnical Study Reports)

The units outcropping in the activity area are listed below from the oldest to the youngest

PALEOZOIC

BLACK ALADAĞ FORMATION (Pzs; D, C, P)

The Upper Devonian section of the formation only crops out at the core of an anticline at Köşk creek. Consisting of light colored limestone, this section is interbedded with quartzite and the upper levels are intercalated with clayey limestone and shale; In this section with abundant macrofossils, *Froductella subaculeata* (Murchison), *Cyrtospirifer* gr. *Brachiopods* such as *syringothyridiformis* (Paeckelmann) have been identified (det: Salancı, A.; Tekeli et al., 1981).

A gradual transitional carboniferous succession takes place over this section. It is dark gray- light brown, medium laminated with limestone-shale alternation, quartzite interbedded. At these levels, which have a rich foraminiferal fauna, It has been detected *Archaediscus* sp., *Mediocris* sp., *Millerella* sp., *Neoarcheodiscus* sp., *Fusulinella* sp., *Schubertella* sp., *Ozawainella* sp., *Fseudostafella* sp., *Tricites* sp., *paleotextuluria* sp., (det: Işık, A.; Tekeli vd., 1981).

It is compatible and transitional with the Permian aged section floor, which forms the uppermost levels of the formation, and the lower part of the Permian succession is interlayered with a variegated *Girvanella* limestone, which is very common in the Taurus belt. Above this, Upper Permian limestone section is located. In the lower, *Pseudofusulina* sp., *Pseudoschwagerina* sp., *Tetrataxis* sp. Lower Permian; *Codonofusiella* sp., *Paleotextularia* sp., *Nodosoria* sp., *Pseudovermiporella* sp., *Dagmarita* sp., *Hemigordiopsis* sp. and *Mizzia* sp. indicate the Upper Permian (det: Işık, A.; Tekeli et al., 1981).

TRIAS

KÜÇÜKSU FORMATION (Trk)

The unit is in very typical variegated colors such as grey, yellow, green, purple and burgundy; It is thin to medium bedded. The succession generally starts with stromatolitic and oolitic limestone. It is made of an intercalation of shale, marl and clayey limestone. Frequently encountered conglomeratic limestone interlayers are very typical (edgewise conglomerate). The maximum thickness reached by the unit, which has very variable thicknesses, is 250 m.

The formation is in harmony and distinctly in contact with the Upper Permian limestones in the Siyah Aladağ nappe and the Arkaçça formation in the Çataloturan nappe. Some levels of the formation, which is very poor in terms of fossils, have abundant gastropod shell fragments. Age of unit *Cyclogyra mahajeri*, Bron., Zann. and Bozog., *Rectocornuspira calcoria*, Bron., Zann. and Bozog.^ It is Lower Triassic according to foraminiferal fauna such as *Earlandia* sp., *Meandrospira pusilla*, (Ho), *Ammodiscus parapriscus* Ho, *Glomospira sinensis* Ho, *Glomospira shengi* Ho, *Glomospirella facilis* Ho (det: Işık, A.; Tekeli et al., from 1981).

TRIAS-JURA**WHITE ALADAĞ FORMATION (TrJb)**

The formation is made of white-gray, medium-thick bedded, sometimes massive dolomite and dolomitic limestone; Its thickness is about 1500 m.

The unit, which has a very wide distribution in the Aladağlar, forms a large part of the Beyaz Aladağ nappe. Teknepinar Formation is located at the base of the formation; There is a gradual transition between them.

The unit, which is rich in megalodonts, also contains fragments of gastropod and ostracod shells, as well as algae and involutinid foraminifers. Detected Trocholina permodiscoides Oberhouser, Involutina sp. and Triasina sp. the existence of the Upper Triassic; Involutina liassica (Jones), Ichtyolaria sp. and Paleodasyclus mediterraneus Pia, an algae, proves the existence of Liassic (det: Işık, A.; Tekeli et al., 1981).

SIRÇAL LIMESTONE (JKs)

The formation consists of light gray, medium-thick bedded limestone; Its thickness reaches 500 m. The unit is commonly located in the stratigraphic upper part of the Beyaz Aladağ nappe and is transitional with the Beyaz Aladağ formation at its base.

Protopeneroplis striata Weyn., Pseudocyclamina sp., Maurania sp., Valvulina sp. and algae Cayaxia sp., Thamnaporella sp. is found. The age of the formation is Jurassic-Lower Cretaceous (from Işık, A.; Tekeli et al. 1981).

JURA-CRATESE**DİVRİKDAĞI FORMATION (JKd)**

There is an unconformity at the base of the gray, massive-thick bedded limestone formation, and bauxite lenses are frequently encountered at this level. The thickness of the unit reaches 600 m.

Found in the unit with a rich foraminiferal fauna: Kili anina sp., Kurnubia sp., Phenderina sp., Haurania sp., Orbitolina sp., Pseudotextularia sp., Cuniolina sp., Chryselidina sp. According to the data, its age is Jurassic-Lower Cretaceous (det: Işık, A.; from Tekeli et al., 1981).

UPPER CRATESE OPHIOLITIC MELANGE (KIOM)

The ophiolite mélanges of the Aladağ region were described in detail by Tekeli (1981). In this region, on the Triassic-Lower Cretaceous limestones, the sequences belonging to the Senonian basin of melange character with abundant ophiolite material and a very complex internal structure are unconformably related. Since a nappe structure was formed immediately after the deposition of these sequences, today the ophiolite mélange outcrops float in bands extending along the nappe contacts.

There is a very extensive rock assemblage within the unit. The majority of these are rock types that represent all members of an ophiolite sequence (for example: serpentized ultrabasic rocks, gabbro, diabase, syphilitic basalt, basaltic pillow lava, tuffite, pyroclastics, radiolarite, mudstone, pelagic cherty limestone). In addition, limestones belonging to shallow environments and limestone fragments belonging to the floor are also commonly encountered.

Regular clastic series are encountered in most places at the base of the ophiolite mélange. These are generally formed by flysch and conglomerate type mass flows. There is generally an unconformity between this section at the base of the mélange and the Mesozoic limestones.

Sometimes olistostromal successions are found on regular clastic successions at the base of the ophiolite mélange, sometimes directly at the base. The pulp of the olistostrom is of various colors of shale or sedimentary serpentine. Some of the gravel and blocks it carries belong to the foundation and some belong to the basin, and have been blocked during the flow.

The most common section of the ophiolite mélange is the chaotic section, which stands out as a block aggregation of varying sizes. This section reflects the most characteristic features of the formation. The general appearance of the chaotic section is in the form of massive rock blocks of varying sizes (1 m-100 m) scattered randomly in a soft morphology. The chaotic section is largely composed of rock types belonging to the ophiolite sequence; Autochthonous deposits are not encountered in this section.

MIOCENE ZEBİL FORMATION (Miz)

The unit was named by Ulakoğlu (1984). It is generally composed of clastics. Coarse clastics show thick bedding while fine clastics show thin bedding. Conglomerate, sandstone, common rock type in which red and yellowish gray color is dominant, is interlayered with siltstone in places. The formation of coarse clastics at the lowest and uppermost levels of the succession indicates that the deposition starts with transgression and ends with regression. The

layers are usually horizontal or near-horizontal. It is observed that the unit, with a thickness of 550 m, has been located on the Paleozoic and Mesozoic successions unconformably. The sequence mostly consists of coarse-grained clastics, contains fossils with coarse shells, lignite formation and its red appearance suggest that the formation is deposited in coastal environments.

The age of the unit has been determined as Lower Miocene according to the inner molds of *Ostrea crassissima* D' lamarck and gastropoda, and pollen species determined from the lignite layer (from Ulakoğlu, 1984).

KUVATERNER

SLOPE WASH (Qym)

The fact that the Aladağlar is a mountain range over 3000 m and the elevation difference of up to 1500 m between the valley floors and the crest lines ensures that debris accumulates widely on the slopes of the slopes. Especially in the Beyaz Aladağ section, slope debris is quite thick and common.

The closest active zone to the activity area is the Ecemiş Fault zone. The SW-NE elongation faulting passes approximately 16 km west of the activity area.¹

The activity area is located in the Aladağlar part of the Taurus Mountains, between the average elevations of 1400 m and 2000 m.

The activity area and especially the turbine areas are located on limestones. Therefore, there is no risk of landslide. Since the turbines and switchyards are located at the summit, they are also away from avalanche, flood and rockfall risks.

¹ MTA 1/100.000 scaled L34 - M34 geological maps and reports, Zeki Ünal YÜMÜN, report titled "Stratigraphy of the Region Between Delialıuşağı and Elmadağ (Yahyalı/Kayseri) and Location of Aladağ Ophiolite Melange"

ÜST SİSTEM		SİSTEM		SERİ		GURUP		FORMASYON		ROCK TYPE	SİMGE	EXPLANATIONS				
SENZOYİK		TERSİYER		Miyosen		Zeytin		Alüvyon				TYPE OF ROCK	PALEONTOLOJİ			
MESOZOYİK	KRETASE	UST	ALT	Aladağ Ophiolitli Melanit	Zamanti Mermeri	Aladağ Ophiolitli	>300	>300	Krao	Krao	Krao	Alluvium Angular Unconformity Scratched and polished limestone blocks and pebbles Angular Unconformity Siltstone - sandstone - conglomerate arđalan mass polygenic conglomerate Angular Unconformity Peridotite, serpentinite diabase dykes and gabbro Tectonic Contact brownish-red metamorphic rocks Tectonic Contact Ophiolitic melange composed of limestone blocks, Ophiolitic rock fragments and clastic matrix	-			
														Krz	Krz	-
														Kra	Kra	<i>Preoglobo truncana</i> sp., <i>Gaupillaudina</i> sp., <i>Heteroheliks</i> sp., <i>Hedbergella</i> sp., <i>Globo truncana</i> sp.
	JURA	UST	ALT	Sırçak Kireçtaşı	Divrik dađı	>100	>100	>100	JKd	JKd	JKd	Dark Gray - Gray Colored medium - thick bedded hard textured limestone	-			
														JKS	JKS	<i>Siphovalvulina</i> sp., <i>Valvulina lugoni</i> , <i>Valvulina</i> sp., <i>Thaumatoporella pervovesiculifera</i> , Textularidae ve Paleciypod kavkıs
														JKS	JKS	<i>Siphovalvulina</i> sp., <i>Thaumatoporella pervovesiculifera</i> , Textularidae ve Paleciypod kavkıs
TRİYAS	UST	ALT	Beyaz Aladağ	>500	>500	>500	Trb	Trb	Trb	Beige Yellowish gray and brownish gray medium to thick bedded limestone	-					
												Trb	Trb	<i>Auloconus permodisoides</i> , <i>Aulotortus</i> ex. gr. <i>sinuosa</i> , <i>Aulotortus</i> sp.		
Tektonik dokanak																

Figure IV.2.1.1. Stratigraphic Section of the Study Area and Its Surroundings

1/10,000 scaled geological map of the study area is given in Annex:11.

IV.2.2. Hydrological and hydrogeological current and planned use of surface and underground water resources,

Rivers

Kızılırmak is one of the most important rivers of Kayseri province. 128 kilometers of Kızılırmak River is located within the provincial borders of Kayseri. There are Sarımsaklı Water (55 km), Kestüvan Water (48 km) and Değirmendere Water (32 km) as the branches of Kızılırmak. Zamantı (250 km) and Sarız Stream (60 km), other important streams, are branches of the Seyhan River.

From approximately 1,300 m east (1) of the project site, the Zamantı River Shows Flow.

1 The distance according to the measurement from the T-23 nearest turbine has been taken.

Table V.2.2.1. Kayseri Province Streams (DSİ XII. Regional Directorate, 2015)

NAME OF THE RIVER	Total Length (km)	Length within Province Boundaries (km)	Flow rate (m ³ /sec)	The River of which it is tributary	Purpose of usage
Kızılırmak	1182	128	71	Kızılırmak	Aquaculture fishing
Zamantı	230	230	22,5	Seyhan	Water sports, Aquaculture fishing
Sarız Çayı	60	60	4,7	Ceyhan	Aquaculture fishing

Lakes and Ponds

The important lakes of Kayseri Province are Camız Lake, Çöl Lake, Sarıgöl, Yay Lake and Tuzla Lake. In addition to these, there are dams and ponds of various sizes. These are; Ağcaşar Dam, Akköy, Kovalı, Sarımsaklı, Selkapanı, Bahçelik, Sarıoğlan and Yamula Dams and Efkere, Karakuyu, Şıhlı, Tekir and Zincidere ponds.

Table V.2.2.2. Existing Irrigation Ponds in Kayseri Province (DSİ 12th Division, 2017)

Name of the Pond	Type	Irrigation Area (net), ha
Lake Yay	Natural	9400
Lake Tuzla	Natural	2330
Sarımsaklı Dam	Artificial	280
Kovalı Dam	Artificial	227
Ağcaşar Dam	Artificial	306
Akköy Dam	Artificial	80
Bahçecik Dam	Artificial	1213
Yamula Dam	Artificial	8530
Bayramhacılı Dam	Artificial	1480
Gümüşören Dam	Artificial	1700
Tekir Pond	Pond	77
Zincidere Pond	Pond	3
Gesi Efkere Pond	Pond	1
Pınarbaşı Karakuyu Pond	Pond	2
Felahiye Kayapınar Pond	Pond	37
Bünyan Hazerşah Pond	Pond	15
İncesu Sel Kapanı	Pond	19
PınarbaşıKaramanlı Pond	Pond	31

Source: Kayseri Provincial Environmental Status Report 2016

GROUND WATER*Table V.2.2.2. Kayseri Province Groundwater Potential (KASKİ 2016)*

Source Name	M ³ /year
Anayurt	2.548.315
Anneler Parkı	8.180.861
Beştepeler	10.013.210
Çaybağları	3.922.960
Eğribucak	5.070.698
Erkilet	250.167
Gediris	2.888.025
Germiraltı	13.926.657
Hacılar	1.492.604
Karpuzatan	9.287.566
Keykubat	11.898.041
Mahrumlar	7.321.090
Dokuzpınarlar	4.227.400
Mimarsinan	3.025.829
Toki	1.630.698
İncesu	1.799.812
TOTAL	87.483.933

Source: Kayseri Provincial Environmental Status Report 2016

The use of YAS (Ground Water) for the province of Kayseri is given below.

Calculated Reserve (hm ³ /Year)	: 957,42
Allocated Reserve (hm ³ / Year)	: 417.00
Irrigation (hm ³ / Year)	: 207.14
Drinking Water (hm ³ / Year)	: 209.86
Remaining Reserve (hm ³ / Year)	: 540.42

In Kayseri, 199.84 hm³/year of groundwater was used in 2016 out of 209.86 hm³/year Groundwater allocated.. According to the Kayseri City drinking water project, the final project of which was completed in 2016, 207.14 hm³/year underground water has been allocated to drinking water.

Table V.2.2.3. Kayseri Underground Water Potential and Its Usage Status (DSİ XII Dept. Directorate 2016)

Kayseri	Allocation Status				Groundwater Irrigation Units (Soil and Water Coop.)								
	Drinking and Using		Irrigation		Total	Irrigation Area		Well Name			Allocation Amount hm ³ /year	Amount Withdrawn hm ³ /year	Remaining Reserve hm ³ /year
	MUNICIPALITY	Other	coop.	Private		Planned	Realized	PLN	Realized				
									Aç.	Çalı.			
957,42	160,17	46,97	166,24	43,62	417	24,256	23,989	610	776	523	166,24	201,18	540,42

The activity area is planned in the area between Zamantı river flowing from north to south and Sırçak Stream branch with NW-SE flowing. The closest border of the license area to Zamantı river is 400m away. The Sırçak Stream Branch is in the south-west borders of the license area.

A few fountain structures built in the past have been observed inside and outside of the activity area. These fountains lose their water towards the end of summer. The water sources observed in the activity area and in the vicinity are the waters that come to the surface in the form of small discharges from the fracture zones at the lower elevations, while the leachate caused by precipitation descends deep along the fractures of the limestones. As a matter of fact, the drying of the springs towards the end of summer indicates that the waters continue to flow deeper and the groundwater level is deeper. Karst pits are frequently observed in the area, which is composed of limestones. For this reason, it is estimated that the groundwater level will be below 200 m from the surface at very deep depths.

Within the scope of the project, the following commitments stated in the format opinion (**See Annex:7**) given by the SHW (State Hydrolic Works) Survey, Planning and Allocations Department shall be complied with:

- The existing beds of the streams passing through the Wind Power Plant site shall be preserved. It is committed to work and process by keeping a distance of at least 25 meters to the right and left over the natural creek bed slope for possible base flow creeks, and at least 10 meters to the right and left over the natural creek bed slopes for dry creeks.

-During the works, The access of all kinds of materials and the sediment that will be formed by erosion to the stream beds shall be prevented by the measures to be taken in the field. All kinds of interventions that prevent the free flow of streams shall be avoided,

In case the planned roads during the installation of the turbines intersect with the stream bed, Opinion shall be obtained from our SHW 12th Regional Directorate on the determination of bridge spans. It shall be ensured that the culverts are of appropriate

hydraulic section and that the minimum culvert dimensions are not less than 2.00 x 2.00 meters. In this context, the opinion letter received from the 12th Regional Directorate of SHW is presented in Annex: 20.

- Necessary measures will be taken to prevent the pollutant elements (solid, liquid wastes) that will occur in the activities in the field due to the project infiltration into the ground and not pollute the groundwater. The sealing of the cesspool pits which will be the place to collect the waste water that will arise from the use in the field shall be made. (Municipal opinions on waste disposal are given in Annex: 12.)

- Considering that the switchgear elements to be used in the switchyard may pollute the air and the surface, maximum precautions shall be taken in accordance with the relevant regulations in order to prevent possible gas leaks and transformer isolation oils from polluting the groundwater against possible leakages.

- All kinds of solid and liquid wastes that will arise during the construction and operation phases will be prevented from reaching or discharging to stream beds and surrounding lands. These wastes will be disposed of in accordance with the legislation. (Municipal opinions on waste disposal are given in Annex: 12.)

- In case of planning water supply from underground and surface water sources, necessary permits will be obtained from SHW 12th Regional Directorate.

- Necessary marking/warning signs shall be placed in sufficient numbers and in an understandable manner in the region where the turbines cross the stream beds. Warning signs shall be protected and all kinds of security measures shall be taken.

- Within the scope of the said activity, Regarding all kinds of facilities, transportation routes and similar infrastructure planned to be realized in this area, an opinion shall be received from our 12th Regional Directorate of SHW.

- During the construction activities, the settlement areas, surrounding lands and stream beds shall not be damaged, and all kinds of measures will be taken for floods and water pollution problems caused by wrong practices. However, It is accepted that SHW (State Hydraulic Works) will not be responsible for any possible loss and damage and related legal problems.

- It shall be ensured to be acted according the relevant provisions of the Groundwater Law, Water Pollution and Control Regulation, Waste Management Regulation.

- In addition, regarding the applications to be made in the areas where the stream beds are located, it shall be complied with Prime Ministry Circular No. 2006/27 on Stream Beds and Floods published in the Official Gazette dated 09/09/2006 and numbered 26284 and relevant provisions of other relevant legislation.

IV.2.3. Soil Characteristics and Usage Status (Classification of land use capability of the soil, erosion, pasture, meadow, current use conditions of the soil, etc.),

The differences in climate and geological structure in the province and the diversity in vegetation have led to the formation of soils with different characteristics. In Kayseri, I-IV Class agricultural lands are 546,221 ha and agriculture is generally done on these lands. V-VIII class area with an area of more than 1,136,101 ha. is seen that cultivated agriculture is done. However, These lands are not suitable for cultivated agriculture. Pasture areas and forest areas, which take the second place after agricultural areas, are concentrated on VII. class lands.

The Land Asset Map, which includes the large soil groups and land characteristics of the project area, is presented in **Annex:18**. Accordingly, the power plant area is in the class of VII class Brown Forest Soils.

VII. Class Lands; It covers 45% of the province with an area of 757,382 ha. The distribution of soil groups of these areas is 0.005% alluvial, 1.78% hydromorphic alluvial, 0.001% alluvial coastal marsh, 0.005% colluvial, 9052% brown forest, 9% chestnut, 39% .2% brown, 24.6% lime-free-brown, 7.2% red-brown, 102% regosol. The usage conditions of these lands are as follows; 60,555 ha. dry farming, 16 ha. irrigated agriculture, 2,679 ha. vineyard-garden, 560.466 ha. Meadow-pasture, 130,219 ha. forest heathland and 3,429 ha. are other uses.¹

IV.2.4. Agricultural Areas (Qualifications of agricultural lands in the project area, agricultural project development areas, special crop plantation areas, size of irrigated and dry agricultural lands, crop patterns and their annual production amounts, the effects of the project on agricultural areas),

According to the expropriation plan in the Project area, the areas where the Project units are located remain in Pasture lands and forest areas. (See Annex: 5). There is no agricultural development project area or special crop plantation areas in the project area. Within the scope of the project, there is only a small amount of private lands in attribute of fields on the access roads between the turbines. Necessary expropriation works shall be carried out regarding the use of the access roads of the power plant site. The list of

¹ <https://kayseri.tarim.gov.tr/>

immovables identified as farmland in the project area is given in Table V.1.12 in Section V.1.12. These lands, which are in the nature of a field, generally have the appearance of dry agricultural lands where one-year wheat or fodder crops are planted.

Regarding pasture areas, within the scope of Pasture Law No. 4342, Necessary applications shall be made in order to make a change in the purpose of pasture allocation and to obtain the necessary permits. It shall be complied with issues stated in the opinion given by Kayseri Provincial Directorate of Food, Agriculture and Livestock, (See Annex: 7).

IV.2.4.1. Indicating that necessary permits shall be obtained according to Soil Conservation and Land Use Law No. 5403, Agricultural Reform Law No. 3083 on Land Arrangement in Irrigation Areas, Pasture Law No. 4342, Law No. 3573 on the Improvement of Olive Cultivation and the Vaccination of Wilds and if there is a fishery production area on the route, Fisheries Law No. 1380, and Stating that the Soil Conservation Project and Pasture Recycling Project shall be made if necessary,

Within the scope of the project, in the opinion of the EIA Format dated 10.10.2017 and numbered 2583328 by the Kayseri Provincial Directorate of Food, Agriculture and Livestock;

- Obtaining non-agricultural use permit according to the Soil Conservation and Land Use Law No. 5403 for agricultural land, vineyards and gardens, if any,

- Obtaining permission according to the Agricultural Reform Law on Land Arrangement in Irrigation Areas No. 3083,

- Obtaining permission for the change of allocation purpose in accordance with Article 14 of the Pasture Law No. 4342 for pasture areas,

- Complying with the provisions of the Fisheries Law No. 1380 and the Pollution Regulation,

- During the implementation of the project, it is necessary to take measures that will not harm the environment, pasture and agricultural lands.

- The opinion that the above-mentioned issues "must be committed in the EIA report" has been given.

According to the expropriation plan in the project area, There are pasture lands and forest areas. Regarding pasture areas, necessary applications shall be made in order to make a change in the purpose of allocating pasture and to obtain the necessary permits within the scope of the Pasture Law No. 4342. It shall be complied with issues stated in the opinion given by Kayseri

Provincial Directorate of Food, Agriculture and Livestock. Soil conservation and Pasture Recycling Project will be prepared if deemed necessary within the scope of the Project.

IV.2.4.2. Stating in the EIA Report that the surrounding agricultural lands and agricultural production will not be damaged during and after the construction phase of the project, Making Commitment that the damage shall be covered by the company if damage is done,

During the implementation of the project, during the construction and operation phases, measures that will not harm the environment, pasture and agricultural lands shall be taken. If damage is done, The damage will be borne by the owner of the activity.

IV.2.5. Forest Areas (Attaching Types and total amount (m²) of trees , the size of the area they cover and their closure, their current and planned protection and/or usage purposes, Homeland map in 1/25.000 scale, where the project site is marked, 1/10,000 scale Forest Cadastre and approved stand map, to the report.)

Within the scope of the project, an application has been made to the General Directorate of Forestry for the EIA Forest Examination Evaluation Form and its opinion, and a Forest Examination Evaluation Form has been prepared by the Kayseri Regional Directorate of Forestry. (See Annex: 8) According to the Forest Survey Evaluation Form, It has been determined that 70.93 Ha of land, which is part of the project area within the boundaries of Kayseri Oman Operation Directorate and Yahyalı Forestry Operations Directorate under Kayseri Regional Directorate of Forestry, is within the borders of the forest area to be subject to the permit. It has been reported that The operation type of the stand is in the form of normal and degraded grove and treeless forest soil, and the stand types are BMAr-T (Corrupted Oak-Ardıç-Taşlık), BArM (Broken Juniper Oak), BM (degraded Oak) Gc1-T (Fir-Stonelık) OT-T (woodless forest soil stony) OT (woodless forest soil), T (stony), Z (agriculture) and Mab2 (oak). Forest Management and Stand Map is given in the appendix of the Forest Review Evaluation Form. (See Annex: 8)

IV.2.6. Protected Areas (National Parks, Nature Parks, Wetlands, Natural Monuments, Nature Protection Areas, Wildlife Protection Areas, Biogenetic Reserve Areas, Biosphere Reserves, Natural Sites and Monuments, Archaeological, Historical, Cultural Sites, Special Environmental Protection Areas, Special Protection Areas, Tourism Areas and Centers, Areas within the scope of Pasture Law),

Table-IV.2.6.1. Evaluation of the Project Area According to the Sensitive Regions in ANNEX-5

1. AREAS REQUIRED TO BE PROTECTED ACCORDING TO OUR COUNTRY'S LEGISLATION

a) "National Parks", "Nature Parks", "Natural Monuments" and	In line with the geographical information system records (www.milliparklar.gov.tr) published by the Ministry of Forestry and
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<p>"Nature Protection Areas" defined in Article 2 of the National Parks Law and determined in accordance with Article 3 of this Law,</p>	<p>Water Affairs, General Directorate of Nature Conservation and National Parks, The area determined as the project area is not within the scope of "National Parks", "Nature Parks", "Natural Monuments" and "Nature Protection Areas". (See ANNEX-10I)</p>
<p>b) "Wildlife Protection Areas, Wildlife Development Areas and Wild Animal Settlement Areas" determined in accordance with the Land Hunting Law,</p>	<p>In line with the geographical information system records (www.milliparklar.gov.tr) published by the Ministry of Forestry and Water Affairs, General Directorate of Nature Conservation and National Parks, The area determined as the project area is not within the scope of "Wildlife Protection Areas, Wildlife Development Areas and Wild Animal Settlement Areas". (See ANNEX-10)</p>
<p>c) In the 1st, 2nd, 3rd and 5th subparagraphs of subparagraph (a) titled "Definitions" of the first paragraph of Article 3 of the Law on the Protection of Cultural and Natural Assets, identified and registered areas in accordance with the relevant articles of the Law No. 3386 dated (The Law on Amending Some Articles of the Law No. 2863 on the Protection of Cultural and Natural Assets and Adding Some Articles to this Law) 17/6/1987 and defined as "Cultural Assets", "Natural Assets", "Site" and "Conservation Area",</p>	<p>The examination of the project area turbine locations and measurement pole locations of the Kayseri Cultural Heritage Preservation Regional Board within the scope of the law numbered 2363 has been completed. Turbines and measuring poles, whose locations are marked with coordinates on the attached 1/25.000 scale map, are located outside the protected area. There is no registration record as an immovable cultural property to be protected. As a result of the surface examination carried out on the turbine and measurement mast locations by the experts of the directorate, no immovable cultural property to be protected that could be included in the scope of the law numbered 2863 was found. However, in case any finds or remains are found during the possible excavation works to be carried out on the areas, it is stated that the works must be stopped and the nearest museum directorate and the headman in the village or the local authority in other places must be informed, pursuant to Article 4 of the Law No. 2863. Within the scope of the project, it shall be complied with matters stated in the opinion given by the Ministry of Culture and Tourism, Regional Board of Protection of Cultural Heritage. If any cultural property is found during the construction works in the project area, the works shall be stopped and the nearest civil authority or the Museum Directorate shall be notified as per Article 4 of the Law No. 2863. The opinion of Kayseri Cultural Heritage Preservation Regional Board Directorate is presented in Annex:15.</p>
<p>ç) Fisheries Production and Breeding Areas within the scope of Fisheries Law,</p>	<p>Fisheries Production and Breeding Areas within the scope of Fisheries Law No. 1380 have not been encountered in the project area.</p>
<p>d) Areas defined in the 17th, 18th, 19th and 20th articles of the Water Pollution Control Regulation,</p>	<p>Not located in,</p>

e) Areas defined in the Air Quality Assessment and Management Regulation	There is no restricted-defined area within the scope of air quality assessment in the region by the Kayseri Governorship. (www.csb.gov.tr/iller/kayseri)
f) Areas determined and declared as "Special Environmental Protection Areas" by the Council of Ministers in accordance with Article 9 of the Environment Law,	The project site is not within the scope of SEPA (Special Environmental Protection) areas.
g) Areas taken under protection according to the Bosphorus Law,	The project site is not within this scope.
ğ) Places considered as forest area in accordance with the Forestry Law,	A part of the project area is within the forest area. (See Annex: 5, Annex: 8)
h) Areas with a building ban in accordance with the Coastal Law,	The project area is not in this scope
ı) Areas specified in the Law on Improvement of Olive Cultivation and Inoculation of Wild ,	The project area is not in this scope
i) Areas specified in the Pasture Law,	Part of the project area is pasture land. (See ANNEX: 5)
j) Areas specified in the Wetlands Protection Regulation.	The Zamanti River is located at 1,300 m east of the project area (T-23).

2. AREAS REQUIRED TO BE PROTECTED ACCORDING TO THE INTERNATIONAL CONVENTIONS TO WHICH OUR COUNTRY IS A PARTY

a) In accordance with the "Convention on the Conservation of European Wildlife and Habitats" (BERN Convention), I and II Protected Areas, "Mediterranean Seal Habitat and Breeding Areas", specified in the "Important Sea Turtle Breeding Areas" among the protected areas,	-The project area has no interaction with these areas.
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<p>b) Areas protected in accordance with the "Convention for the Protection of the Mediterranean Sea against Pollution" (Barcelona Convention)</p> <p>1) Areas designated as "Special Protection Areas" in our country in accordance with the "Protocol on the Protection of Specially Protected Areas in the Mediterranean",</p> <p>2) Areas included in the list of "100 Coastal Historic Sites of Common Importance in the Mediterranean" published by the United Nations Environment Program, selected in accordance with the Genoa Declaration</p> <p>3) Coastal areas, which are the living and feeding environment of the "Endangered Marine Species of the Mediterranean" in Article 17 of the Genoa Declaration,</p>	<p>The project area has no interaction with these areas.</p>
<p>c) In accordance with the 1st and 2nd articles of the "Convention on the Protection of the World Cultural and Natural Heritage", Cultural, historical and natural areas that have been given the status of "Cultural Heritage" and "Natural Heritage" under protection by the Ministry of Culture,</p>	<p>The project area has no interaction with these areas. (http://www.kulturvarliklari.gov.tr)</p>
<p>ç) Areas under protection in accordance with the "Convention on the Protection of Wetlands of International Importance, Especially as Waterfowl Habitat" (RAMSAR Convention),</p>	<p>The project area has no interaction with these areas.</p>
<p>d) European Landscape Convention.</p>	<p>Regarding the landscape areas in the region; There is no assessment such as creating a protection, development or management plan as specified in the European Landscape Convention, which aims to</p>

	provide a new legal document to be used for the protection, management and planning of all landscapes in Europe.
3. AREAS TO BE PROTECTED	
a) Areas determined as areas to be protected and prohibited for construction in the Approved Environmental Plans (areas to be protected with natural character, biogenetic reserve areas, geothermal areas, etc.),	Turbine Areas and Switchyard in 1/100,000 environmental plan are in the forest and meadow-pasture legend.
b) Agricultural Areas: Agricultural development areas, irrigated, irrigable and land use capability classes; I, II, III and IV - All of the I st and II nd classes and special crop plantation areas used in rainfall dependent agriculture,	The turbines in the project are located in the pasture and forest areas.
c) Wetlands: Natural or artificial, permanent or temporary, stagnant or flowing, fresh, brackish or salty waters, covering depths not exceeding 6 meters in the low tide phase of the seas, all waters, which are important as the living environment of living things, especially waterfowl, swamps, reeds and turbias and ecological wetlands from the coastal edge of these areas to the land side, - When the project area is evaluated according to the Environmental Plan, it is not within the scope of these areas.	-The Zamantı River is flowing approximately 1,300 m (T-23) east of the project area.
ç) Lakes, rivers, underground water operation areas,	If the project area is evaluated according to the Environmental Plan, it is not within the scope of these areas.
d) Species that are important for scientific research and/or endangered or may be endangered and areas that are the habitat of endemic species for our country,	Within the scope of the project, Flora-Fauna-Ornithological Evaluation has been carried out by Ornithologist Prof. Dr. S.Levent Turan, Zoologist Dr. Muharrem Karakaya and Botany Expert Prof. Dr. Galip Akaydin, and Field studies have been carried out in the project area on 14.09.2017. Prepared Ecosystem Evaluation Report is presented in Annex: 25.

biosphere reserve, biotopes, biogenetic reserve areas, areas with unique geological and geomorphological formations.	
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The Protected Areas Map showing the protected areas and the position of the project area is given in ANNEX:10.

IV.2.6.1. Include in the EIA Report the official letter to be received from the Governorship of Kayseri (Provincial Directorate of Environment and Urbanization) regarding the presence of natural assets and natural sites within the project area, If there is a natural property and natural site status, To be evaluated in accordance with the legislation in force, to be transferred to the relevant Regional Commission for Conservation of Natural Assets, and to be evaluated according to the decision of the commission to be taken,

Within the scope of the project, opinions on Natural Resources have been asked to Kayseri Provincial Directorate of Environment and Urbanization. It has been stated that there are no natural assets and natural sites in the project area. (See Annex: 14)

IV.2.7. Flora and Fauna (species, endemic, especially locally endemic plant species, relative abundance degrees, naturally living animal species, species protected by national and international legislation; rare and endangered species and their habitats, game animals, their populations and Center Hunting Commission Decisions for these species), Showing the vegetation types and sampling areas on the project area on a map, Giving a table of whether there is a species protected by international agreements (Bern Convention, etc.), The protection measures to be taken for the living things that will be affected by the activity in the project, (in construction and operation phases),

Flora-Fauna-Ornithological Evaluation has been carried out by Ornithologist Prof. Dr. S.Levent Turan, Zoologist Dr. Muharrem Karakaya and Botany Expert Prof. Dr. Galip Akaydin, and Field studies have been carried out in the project area on 14.09.2017. The prepared Ecosystem Evaluation Report is presented in Annex: 25.

In the Ecosystem evaluation report given in the Appendix, in the flora section, plant species are listed, and habitats and relative abundances of protected or endemic species are evaluated. Animal species living naturally in the Fauna Section, species protected by national and international legislation; rare and endangered species and their habitats, game animals, their populations and Central Hunting Commission Decisions for these species have been evaluated in lists. In addition, evaluations for Ornithological and Bats have been made in the Ecosystem Report.

In the Ecosystem Evaluation Report prepared within the scope of the project; The possible impacts of the activity on the ecosystem during the construction and operation phases have been also evaluated. The necessary measures to be taken are also included. (See Annex: 25) Vegetation Map of the Project is presented in Annex:10.

The Commission's opinion given by the General Directorate of Nature Conservation and National Parks within the scope of the project is presented in Annex: 19. In the opinion of the General Directorate of Nature Conservation and National Parks;

As a result of the studies carried out in and around the project site, it is understood that 60 bird species have been identified. Following the commissioning of the turbines (25 units) planned to be built within the scope of the project, It is necessary to monitor at least 15 (fifteen) days in the spring + autumn migration periods and to investigate the possible effects of the activity on the birds. During this monitoring process, semi-annual reports should be prepared regularly and the days, hours and points of the field studies to be carried out should be stated in the report. In the prepared report; information, which is about bird species using the area and their danger categories, for what purpose the bird species identified in the area use the area, distinguishing between the nomadic species in the area and the species that use the area for a long time, the flight heights of the species detected in the area according to the turbines, the distance of the flight corridors to the turbines, the thermal air currents in the region, the climatic data of the region and collection areas for bird species, populations of bird species using the area, and the amount of change observed at the end of monitoring, should be provided in the report. In addition, For the species that are likely to breed in the area, it is necessary to carry out monitoring studies for the species. In the monitoring report; Information should be given about the bio-ecology of the species, for what purpose the species use the area, population size, breeding status, breeding areas and characteristics, number of breeding pairs etc.

Regarding the monitoring reports; giving the observed species as predators, gliders, natives, visitors or transit nomads in groups and in numbers, Including the number of transitions and individuals observed in each period in the report, making an evaluation of the target species, based on detailed statistics and numerical analysis, CVs of experts involved in the preparation of the report, should be included in the report. It must be required to interpret the target species, especially the Little Vulture (EN) and Blue raven (NT), under separate headings, determining whether they use the project site and its surroundings for breeding and shelter, to check whether there are nests and eggs in the field, present all bird species observed in the area in tables such as native species, migratory species, and predators, together with their numbers of transitions and individuals and their Turkish-Latin names, to investigate the presence of bats in the region in detail under separate headings of target species (transition and individual numbers, what they use the area for, risk levels, flight altitudes, approach distances to turbines at horizontal level, between July and September when bat deaths are the highest, to submit the prepared reports,

Noah's Ark database and daily records to us electronically, to carry out the migration period monitoring studies with the participation of technical personnel from the Provincial Branch Directorate and/or our General Directorate and report the results to our General Directorate every 6 months.

In line with the findings in the EIA Report and its annexes, in order for the project to be implemented; The following points must be complied with;

-Taking spraying measures for dust formation caused by construction activities during the breeding period of vertebrate species (April-July) and during vegetation, pollination and flowering periods of plants and carrying out construction activities under the control of biologists,

-Following the installation of all turbines, investigating the presence of bats in the region by monitoring at least 5 nights between July and September, when bat deaths are the highest,

-Taking the measures specified in the EIA report and its Annexes to prevent the species belonging to the flora and fauna components and especially the endangered species from being damaged during the construction period and informing employees and plant managers,

-During the construction period, Maintaining the fertile layer of the soil by stripping and ensuring the continuity of the species by germinating the seeds in the soil by using the seeds left in the stripped soil after the construction works,

-The width of the road to be constructed (excluding slopes, excavation and fill ends and pavement margin) should not exceed 6 meters,

-Improving or restoring the areas that will require repairment in the project site, afforestation with species suitable for the region,

-In addition to the above-mentioned issues, committing fulfilling all suggestions and measures specified in the EIA report and its annexes, and all additional measures and commitments required during and as a result of monitoring, stopping turbines that are dangerous for birds during their migration periods in line with the data to be obtained as a result of monitoring and and undertaking to dismantle dangerous turbines if deemed necessary as a result of monitoring.

Considering what has been prepared for the project and to be obtained from our General Directorate, It has been mentioned that the letter of undertaking (printed and digital copy), which will be prepared in accordance with the above-mentioned issues and approved by the

applicant company, to be sent to our General Directorate and VII Regional (Adana) Directorate, It shall be complied with the points stated in the opinion.

IV.2.7.1. Indication of the names of the experts who carried out the field studies and the periods they have worked in the report,

Flora-Fauna-Ornithological Evaluation has been carried out by Ornithologist Prof. Dr. S.Levent Turan, Zoologist Dr. Muharrem Karakaya and Botany Expert Prof. Dr. Galip Akaydin, and Field studies have been carried out in the project area on 14.09.2017. The prepared Ecosystem Evaluation Report is presented in Annex: 25.

IV.2.7.2. Determining the important feeding, resting, overnight, wintering, breeding areas, protected areas and habitat needs for the bird species in the project area and its vicinity and Conducting ornithological studies in order to determine how these areas will be affected by the project and to determine the precautions to be taken,

In the Ecosystem evaluation report prepared within the scope of the project, Plant species are listed in the flora section, and protected or endemic species are evaluated. Animal species living naturally in the Fauna Section, species protected by national and international legislation; rare and endangered species and their habitats, game animals, their populations and Central Hunting Commission Decisions for these species have been evaluated in lists. In addition, Ornithological and Bat evaluations have been made in the Ecosystem Report. (See Annex 25)

IV.2.7.3. If there are areas with protection status close to the project site, showing their distances on the map,

Erciyes - WPP project site is located within the borders of the Central Anatolia Region. There are some areas in this region that are important for bird species due to different reasons. As emphasized in the updated "Important Bird Areas of Turkey" study by Kılıç and Eken (2004), The closest areas to the project site are Sultan Marshes, Lake Seyfe , Lake Palas and Hürmetçi Marshes among the 184 important bird areas recorded within the borders of the country. Going a little further west from the project site, There are wetlands that are important for birds, such as the Hirfanlı Dam and Lake Tuz , which are relatively farther away than the above areas.

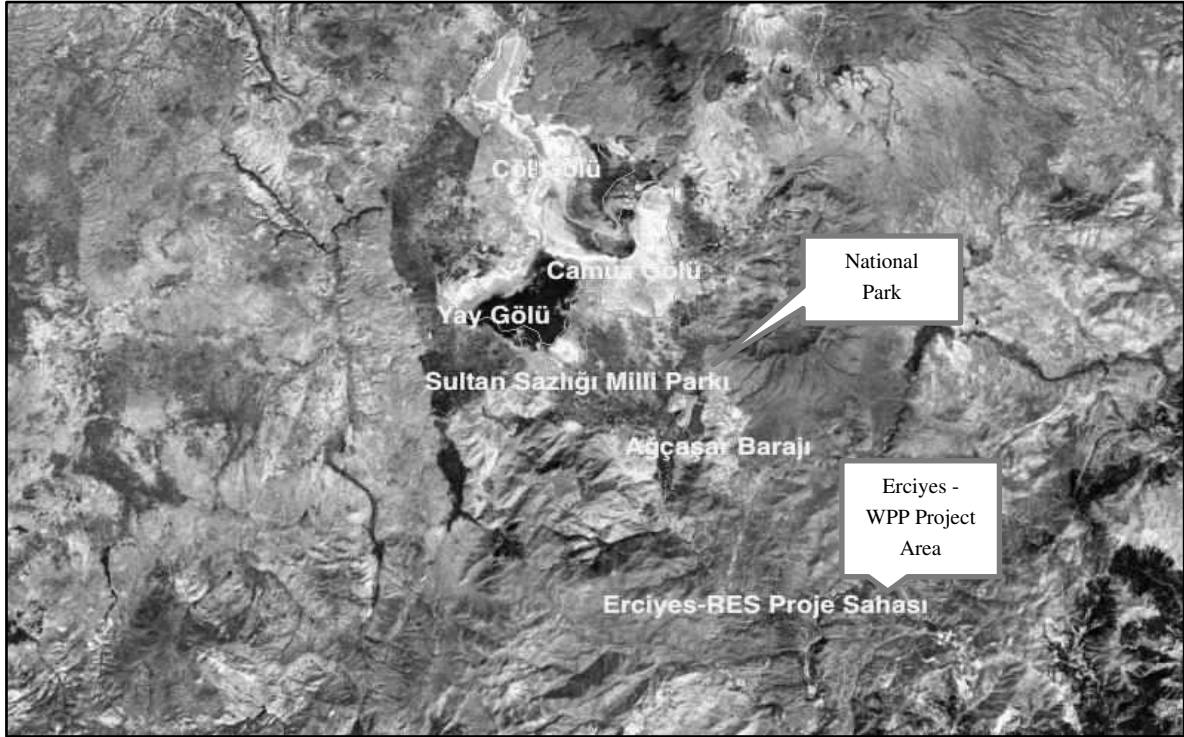


Figure IV.2.7.3.1. Important Bird Areas in Erciyes - WPP Site and in the Near Surroundings

These areas are relatively large in scale in terms of the area they cover. In addition to these areas, in the immediate vicinity, Smaller scaled artificial wetlands such as Ağcaşar Dam and Yamula Dam Lake (North, approximately 100 km) are similarly preferred environments by birds for various purposes from breeding to wintering. The first 3 of these areas are not far from the project site and They are areas that support a significant number of bird species. These areas, which can be defined as important for birds not only on a national but also on an international scale, are not very close to the Erciyes-RES project site. For example, in an evaluation made by us based on the Sultan Marshes lake border, It is located at a distance of approximately 30 km by bird flight to the turbine no. T-3, which is located in the northernmost location in the Erciyes - WPP site.

Similarly, Ağcaşar Dam Lake, located in the northwest direction of the Erciyes-WPP project area in the region, is an artificial wetland frequently visited by birds, and its distance to the turbine no. T-3 is around 18 km by bird flight.

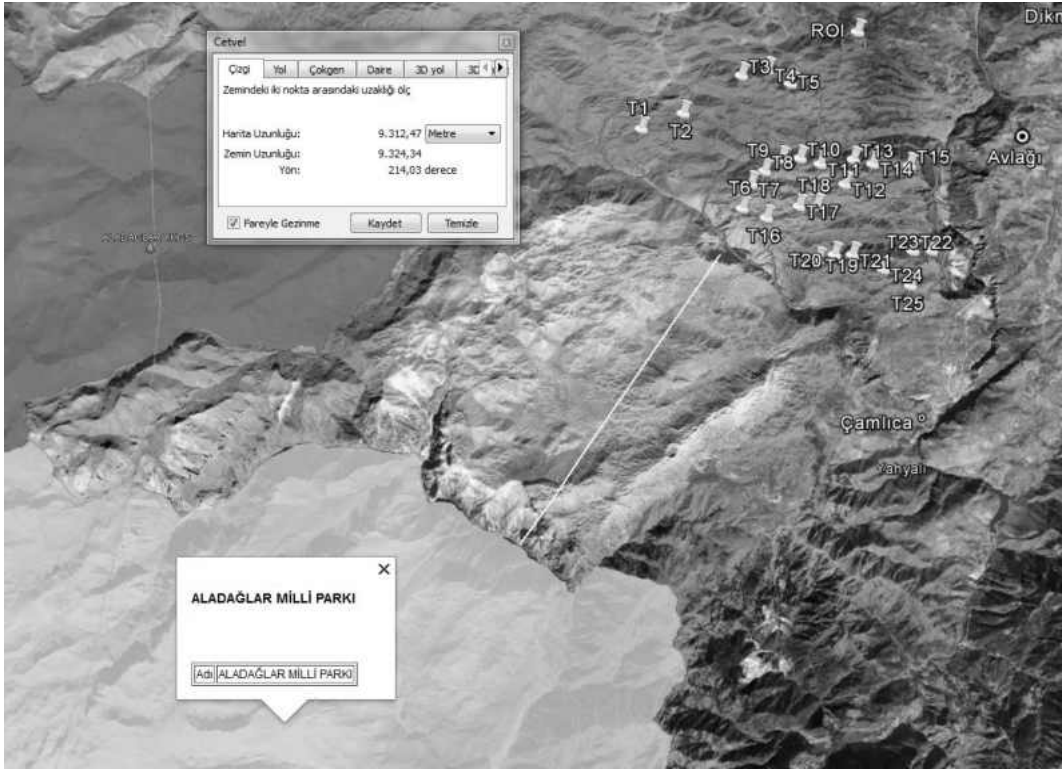


Figure V.2.7.3.2. Position of Erciyes WPP relative to Aladağlar National Park

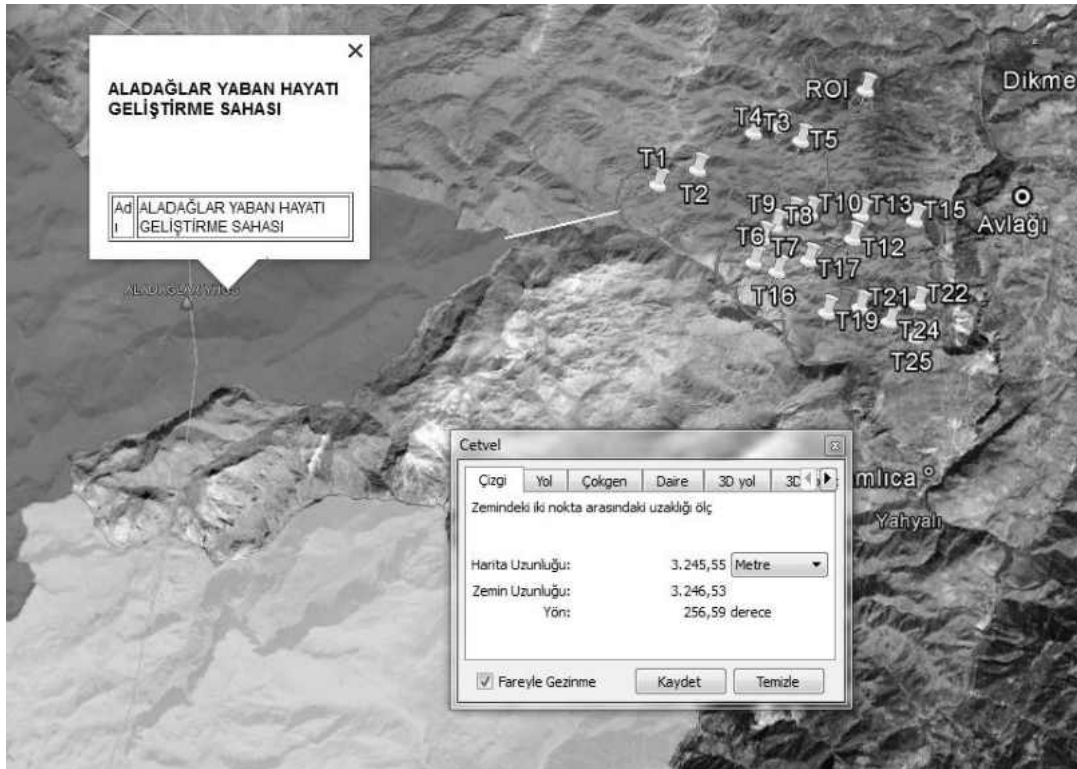


Figure V.2.7.3.3. Position of Erciyes WPP by Aladağlar Wildlife Development Area

Erciyes WPP Project is located approximately 9.3 km from Aladağlar National Park and approximately 3.2 km from Aladağlar Wildlife Development Area. In this context, The opinion of Adana Regional Directorate of Nature Conservation and National Parks (VII. Regional Directorate) has been taken and presented in Annex:19.

IV.2.7.4. Giving information about the effects of the Wind Power Plant on the bee and insect species that cause pollination,

Evaluation of the Interaction of Bees, Insects and Wind Turbines

One of the negative environmental impacts claimed for wind energy projects is the negative impact of wind turbines on bees, namely honey bees and other wild bees, and some insects. In fact, It is claimed that wind turbines played an important role in the mass death or extinction of bees in the last rotations.

The alleged effects of wind turbines on bees and insects can be summarized under two main headings;

- a- Mechanical Effects
- b- Electromagnetic Effects

a) Mechanical Effects

The effects of wind turbines on vertebrate and invertebrate bladed forms are exhibited in different ways. The first of these is the fact that bats flying against the air flow that gains a certain acceleration as a result of the rotation of the propellers behind the turbines, as it is especially shaped on bats, die as a result of barotrauma, which occurs due to the strong air flow they suddenly encounter, as a result of breaking their chest bones and internal bleeding.

b) Electromagnetic Effects

Another of the alleged negative environmental effects of wind energy turbines on living things is that the generator part of the turbines creates electromagnetic effects during electricity production, and this electromagnetic effect causes mass deaths, especially on bees.

As it is known, All electronic devices create electromagnetic fields as long as they are active. It is inevitable for wind turbines to create electromagnetic effects as long as they work. The most important point to be emphasized here is; The electromagnetic effect caused by the turbines can only occur in the generator room, that is, at a height of at least 100 meters from the ground.

Naturally, It can also be claimed that this effect may cause bees to die. However, as a result of research done so far on this subject, No study has been found that the electromagnetic field caused by wind turbines causes the death of bees, which have economic value and have a very important role in pollination. It is not possible for such a lethal effect to occur. There are several reasons for this. The first of these is the electromagnetic effect caused by the rotation of the wind turbines, which is known to remain below the threshold values around the turbines.

Another reason is that there are significant differences between the altitudes where the generators of wind turbines are located and the altitudes at which insects and especially bees fly, prefer to fly or can fly. As it is known, Unlike the few insects that prefer to fly high, Bees fly throughout the day to absorb the nutritious liquid called nectar from flowers. This means that flight altitudes usually start a few centimeters above the ground and usually end a few meters above the ground. So they have no reason to fly higher.

On the other hand, Turbine generators are usually located 80 meters above the ground. In other words, There is a height difference of at least 90-95 meters between the heights where the bees are active and the sections where the turbines that create the electromagnetic field are located.

The electromagnetic effect caused by wind energy turbines is shaped only around the turbines and goes down to very low levels outside the generator room before reaching further distances and does not reach the altitudes preferred by the bees to fly.

It is possible for bees and insects to reach these heights only if the wind conditions are suitable, that is, if the wind does not blow at all or if it blows very lightly. In this case, It shall not be possible for the wind to turn the turbine blades and move the generators. The wind strength required for the turbines to be activated is not preferred by the bees. In this case, The wind speed required for the bees to fly and the wind speed required for the turbines coincide with one another. In other words, the bees cannot fly at the wind speed at which the turbines are active, and the wind conditions in which the bees fly are not sufficient for the turbine blades to rotate.

The fact that the turbines do not rotate means that there is no electromagnetic effect.

As a result, An electromagnetic effect occurs during the operation of wind turbines. This effect is shaped only inside the turbine chamber and the values measured just outside the turbines are below the threshold value. There is no scientific evidence that the electromagnetic effect, which occurs at an altitude of around 100 meters, has any effect on living things on the ground, including humans, and on honey bees and other wild bee species flying around short flowers and relatively tall plants.

In the light of all the data regarding the Yahyalı - WPP project, The sections where Wind Energy turbines will be located are generally steppe areas where agricultural capacity is quite limited (for reasons such as high wind speed, soil structure, compelling topographic structure etc.). For this reason, It is not expected that the newly installed wind energy turbines

will have negative effects on the pollination of plants and on bee and insect species that provide pollination.

IV.2.7.5. Giving information about the beekeeping activities brought to the agenda by the local people at the Public Participation Meeting and the effects of the project on these activities,

In accordance with the EIA Regulation regarding the Erciyes WPP project, A Public Participation Meeting was held at 14.00 in Çamlıca Village Village Room on 27.10.2017 in order to inform the public and receive their opinions and suggestions. Local people have participated in the Public Participation Meeting. The effects of the project on beekeeping activities were brought to the agenda.

It has been determined that the people residing in Çamlıca village in the vicinity of the project area are engaged in beekeeping activities and some of their livelihoods are met from this activity. There is not enough information based on scientific research on the effects of wind power plants on the life of honey bees and honey production. .¹

Honey bees, like all other living things, need nutrition and survival. They can live and continue their generation anywhere on earth where climate and nutritional resources are sufficient. They provide a great service to human beings with the pollination services they provide in natural and cultural plants and the products they produce. However, since the life of honey bees is completely dependent on nature, in case of deterioration of the natural balance and ecological system, their living-feeding environment is destroyed and they can suffer great damage that can reach the level of extinction.

Today, CCD (Colony Collapse Disease) is held responsible for the mass or partial extinction of honey bees. Among the factors that cause CCD; Cell phone signals, magnetic fields, genetically modified products, malnutrition, pesticides used in agriculture, various known or unknown viruses, especially Israel virus, habitat loss are shown.

In today's "Technical Beekeeping" conditions, Honey bees are kept in beehives in special places called "Apiculture", suitable for climatic conditions and rich in honey and pollen plants. The choice of apiary place is of vital importance for the bees to survive and to produce honey and other bee products. The living environment of honey bees and the places where beekeeping is done should be a place rich in thier honey and pollen plants, especially closed to

¹ Source: Evaluation Report of the Effects of WPP Projects on Honey Bees, Beekeeping and Honey Production, Asst. Prof Ali İhsan ÖZTÜRK, Agricultural Engineer, Beekeeping Specialist, Muğla Sıtkı Koçman University, Beekeeping Program Lecturer, December-2016

the north, well protected against the wind - dry, low, quiet and calm, away from human and animal influences and stress sources, generally like the south-eastern slopes of the hills.

Many objects on the ground play an important role in helping honey bees to know the environment, to learn the location of the hive and their way of wandering. These objects are a guide for them. In addition, A worker bee, learning its food location, describes the location of the food source to other bees who want to collect food by means of a form of communication called “Bee Dance”. For this reason, Foraging worker bees fly close to the surface at a constant speed so that they can better detect objects on the ground.

In a study, It has been determined that drones and queens flying in the mating areas fly between 10-30 meters, and this height decreases in windy weather. ¹

Wind power plants do not have negative effects on honey bees, bee life and beekeeping, on the contrary, It is not thought that these power plants have any indirect impact on the environment and bee life due to their contribution to reducing the negative effects of environmental pollution and greenhouse gas effects.

As a result; Since the wind turbine areas shall be established at high places, they do not hit the areas where beekeeping activities will be adversely affected. At the same time, Due to the fact that turbines whose turbine body height is 80 m and the blade radius is 49 m have the tip of the blades at a height of 31 m from the ground and Since the turbine areas are located in areas with stronger winds than the lower elevations, they shall not adversely affect the beekeeping activities in the region.

IV.2.7.6. Including the pictures representing the project area and its immediate surroundings in the report and mentioning the activities being carried out in the project area (Beekeeping, agriculture, orchard etc.),

Within the scope of Erciyes Wind Power Plant EIA Studies, Field studies were carried out in the project area on 14.09.2017. Photographs representing the project area and its immediate surroundings, which were taken during the field studies during this period, are presented in Annex:28.

The area where Erciyes WPP shall be established is within the borders of Çamlıca and Yenice neighborhoods of Yahyalı. Yenice neighborhood is an urban neighborhood and is located in the city center. On the other hand, Yenice residents continue their animal husbandry activities, albeit at a secondary level. Most of the population of Yenice was employed in urban business areas, public, service and industry sectors. The main livelihood

¹ Kaynak: Morse, R. A., T. Hooper, 1985. The Illustrated Encyclopedia of Beekeeping. Bland ford Press, Link House, West Street, Poole, Dorset BH15J-LL. U.K.

activity of Çamlıca village is animal husbandry. While only 3.5% (maximum 30) of the 850 households in Yenice neighborhood are actively engaged in animal husbandry, almost all of the 110-household Çamlıca neighborhood households earn their living from animal husbandry, and 20% of the households earn income from activities other than animal husbandry. While the income source of 10% of them is the labor activity in the marble quarry within the borders of the neighborhood, the income source of 10% is the production activity in the HPP (Hydroelectric Power Plant) on Zamantı Stream. In addition to this, Animal husbandry activities have not come to an end in households that receive income from non-animal activities. The animal stock of the urban Yenice neighborhood with 850 households consists of 2500 ovine and 1000 bovine animals. There are 13,000 sheep and 1000 cattle in Camlıca with 110 households. There is no agricultural activity in Yenice district. In Çamlıca, it is limited and carried out only for household needs. In Çamlıca Neighborhood, livestock sales and milk shipments are intense. Beekeeping activities are also carried out in the plateaus region within the boundaries of Çamlıca District. 1 km from Sıbçak Mountain, on the road called "Camel Road" in the highlands region. There are about 250 hives on the right and left sides of the valley. (See Annex: 24)

IV.2.8. Lands under the jurisdiction and in the possession of the authorized bodies of the state (Military Forbidden Zones, areas allocated to public institutions and organizations for certain purposes, areas limited by the Council of Ministers Decision No. 7/16349 published in the Official Gazette dated 25.09.1978 and numbered 16415),

Within the scope of the project, The opinion from the Ministry of National Defense, Construction Real Estate Regional Presidency has been received. It has been reported that there are no military forbidden zones. (See Annex: 17) In line with the Associate License granted by EMRA, Opinions from public institutions have been taken. In the WPP site, The area allocated to public institutions and organizations and the area etc. limited to the council of ministers have not been reported. (See Annex: 13-Annex: 20)

IV.2.9. Meteorological and climatic characteristics (General climatic conditions of the region, numbered days, temperature, precipitation, pressure and wind distributions etc., if modeling work has been done, information on what has been done),

IV.2.9.1. General Climatic Conditions of the Region

In the province of Kayseri, the continental climate of Central Anatolia is dominant, with cold and snowy winters and hot and dry summers. However, the climate of the province differs from place to place according to the altitude. Accordingly, While the climate in the province is softer in the regions remaining in the pit, it hardens as you go from the plateaus to the mountainous areas. For example, in the Develi Plain, which is located in a hollow area compared to the environment, the winter months are relatively mild. The average temperature

is lower in Sarız and Pınarbaşı districts, which are located at higher elevations than the city center. The same value is the same as in the center of Develi District, which is located in a depression pit. The amount of precipitation is higher in the higher parts of the province.

Meteorological data, which is created by using the observation records in the Develi Meteorology Station for many years (1965-2016) and taken from General Directorate of Meteorology, is given in the appendix. (See Annex: 26).

IV.2.9.2. Pressure

According to the observation records of Develi Meteorology Station (1965 – 2016);

The annual average air pressure is 879.5 hPa.

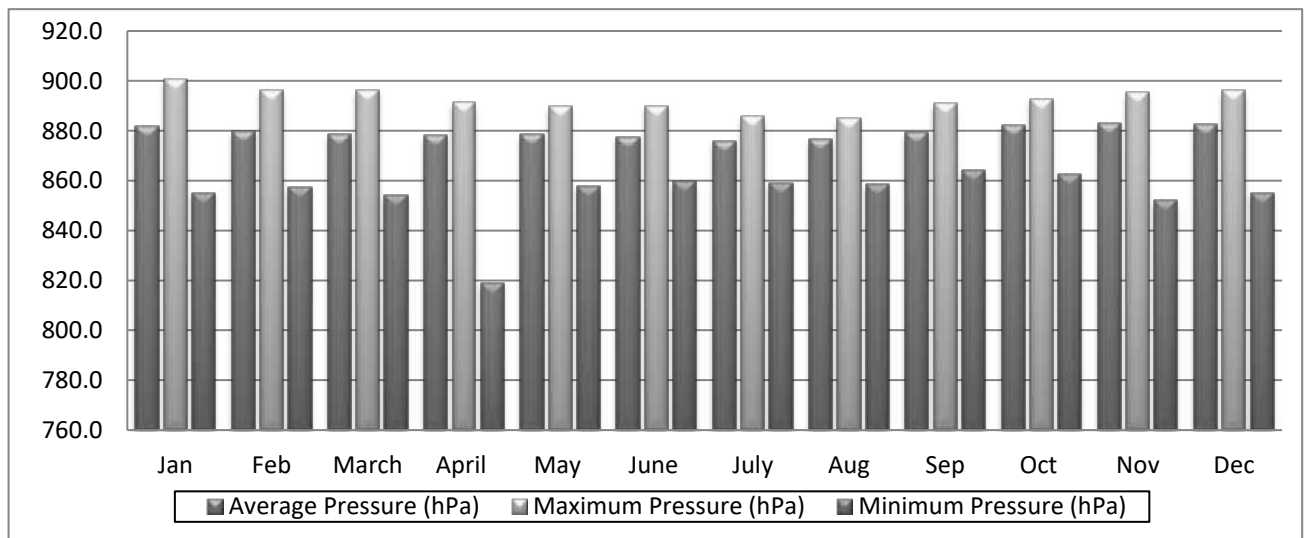
The maximum air pressure is measured as 900.6 hPa.

The minimum air pressure is measured as 819 hPa.

Table IV.2.9.1. Average Pressure, Maximum Pressure and Minimum Pressure Values Table

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Pressure (hPa)	881.7	880.0	878.7	878.0	878.6	877.5	875.9	876.7	879.4	882.3	883.0	882.5	879.5
Maximum Pressure (hPa)	900.6	896.3	896.1	891.4	889.7	889.9	885.7	885	891	892.7	895.2	896.2	900.6
Minimum Pressure (hPa)	855	857.2	854	819	857.8	859.5	858.8	858.6	864	862.4	852.2	855	819

Source: MGM (Turkish State Meteorological Service)



*Graph IV.2.9.1. Average Pressure, Maximum Pressure and Minimum Pressure Values Graph***IV.2.9.3. Temperature**

According to the observation records of Develi Meteorology Station (1965 – 2016);

The annual average temperature is 10.9 °C.

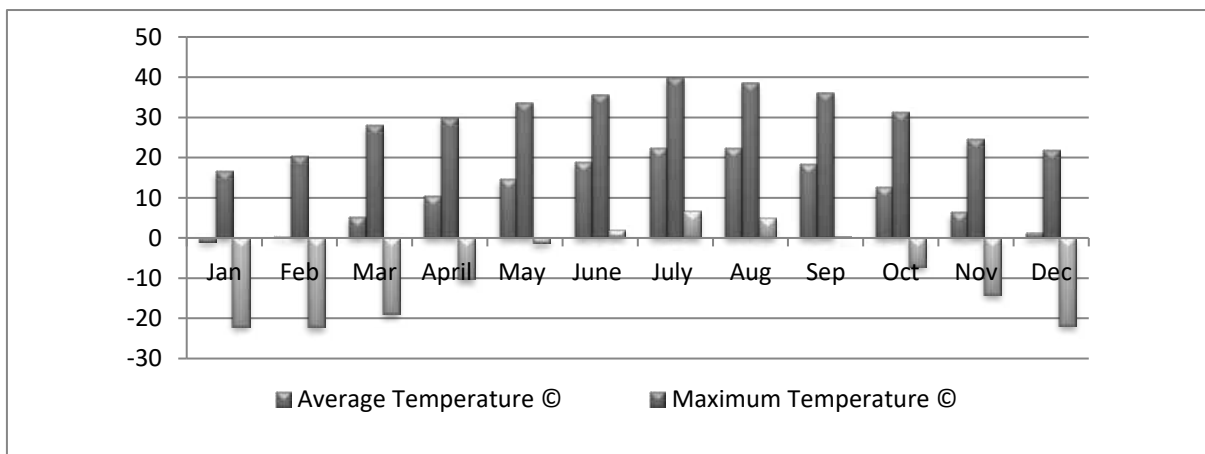
The maximum temperature was measured at 39.8 °C on 30 July 2000.

The minimum temperature was measured as -22.2 °C on 06 February 1972.

Table IV.2.9.2. Average Temperature, Maximum Temperature and Minimum Temperature Values Table

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Temperature (°C)	-1	0.2	5	10.5	14.9	19.3	22.9	22.6	18.2	12.4	6.1	1.1	10.9
Maximum Temperature (°C)	16.5	18.5	28	29.8	33.5	35.6	39.8	38.4	36	31.3	24.5	21.8	39.8
Monthly Maximum Temperature Recorded Date (Day-Month-Year)	05/01/1971	29/02/2016	08/03/2012	11/04/1998	24/05/1995	05/06/2006	30/07/2000	07/08/1987	18/09/1994	01/10/1999	15/11/2010	04/12/2010	30/07/2000
Minimum Temperature (°C)	-22	-22.2	-19	-10.3	-1.3	2	6.5	5	0.2	-7.2	-14	-21.8	-22.2
Monthly Minimum Temperature Recorded Date (Day-Month-Year)	18/01/1972	06/02/1972	03/03/1985	10/04/1997	01/05/1990	05/06/1967	05/07/1982	31/08/1970	20/09/1995	27/10/1973	20/11/1988	27/12/2002	06/02/1972

Source: MGM

*Graph IV.2.9.2. Average Temperature, Maximum Temperature and Minimum Temperature Values Graph***IV.2.9.4. Precipitation Distributions**

According to the observation records of Develi Meteorology Station (1965 – 2016);

The annual average total precipitation is 373.7 mm.

The highest monthly average total precipitation is in April with 54.1 mm.

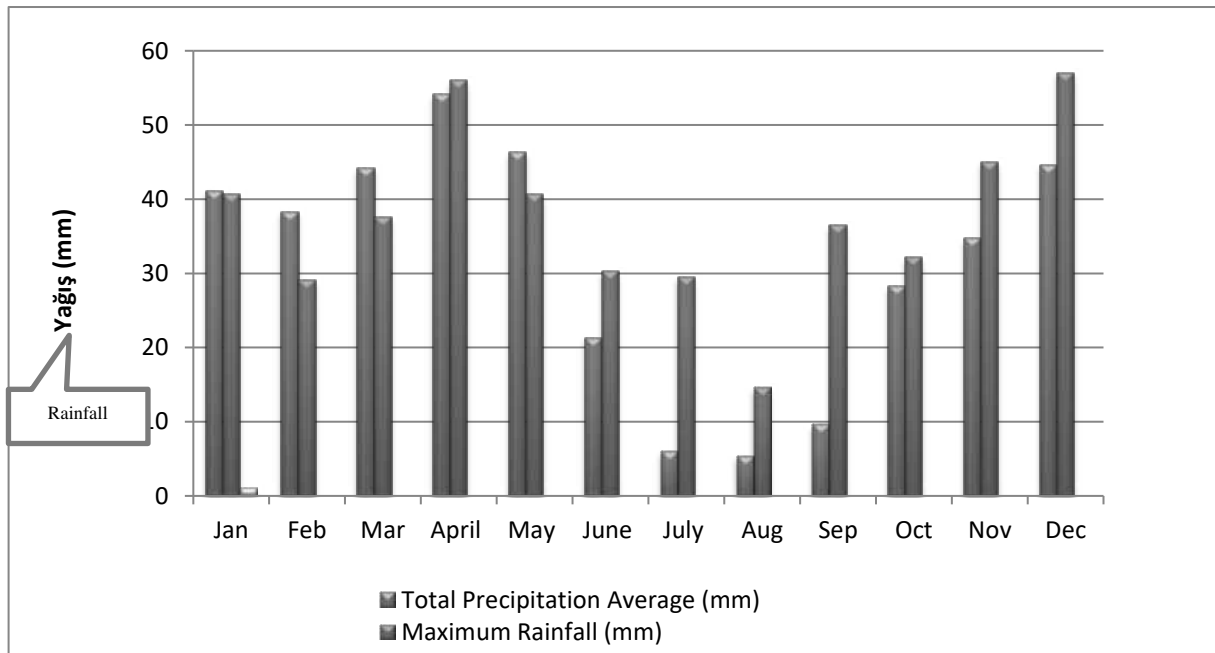
The lowest monthly average total precipitation is in August with 5.4 mm.

The maximum amount of precipitation per day is in December with 57 mm.

Tablo IV.2.9.3. Total Precipitation Average and Maximum Precipitation Values Table

Parametre	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Total Precipitation Average (mm)	41.1	38.3	44.1	54.1	46.3	21.3	6	5.4	9.6	28.2	34.7	44.6	373.7
Maximum Rainfall (mm)	40.7	29	37.5	56	40.6	30.3	29.5	14.6	36.5	32.1	45	57	57

Source: MGM



Graph IV.2.9.3. Total Precipitation Average and Maximum Precipitation Values Graph

IV.2.9.5. Peak Precipitation Measured at Standard Times, Recurrence Graphs

It is seen that the Maximum Rainfall Value Observed in Standard Times of Develi Meteorology Station obtained from the General Directorate of Meteorology of Republic of Turkey Ministry of Forestry and Water Affairs is 63 mm for 100 years. This value shall be taken into account during the construction and operation phase of the project. (See ANNEX:26)

2.7.1.f. Average Relative Humidity Distribution

According to the observation records of Develi Meteorology Station (1965 – 2016);

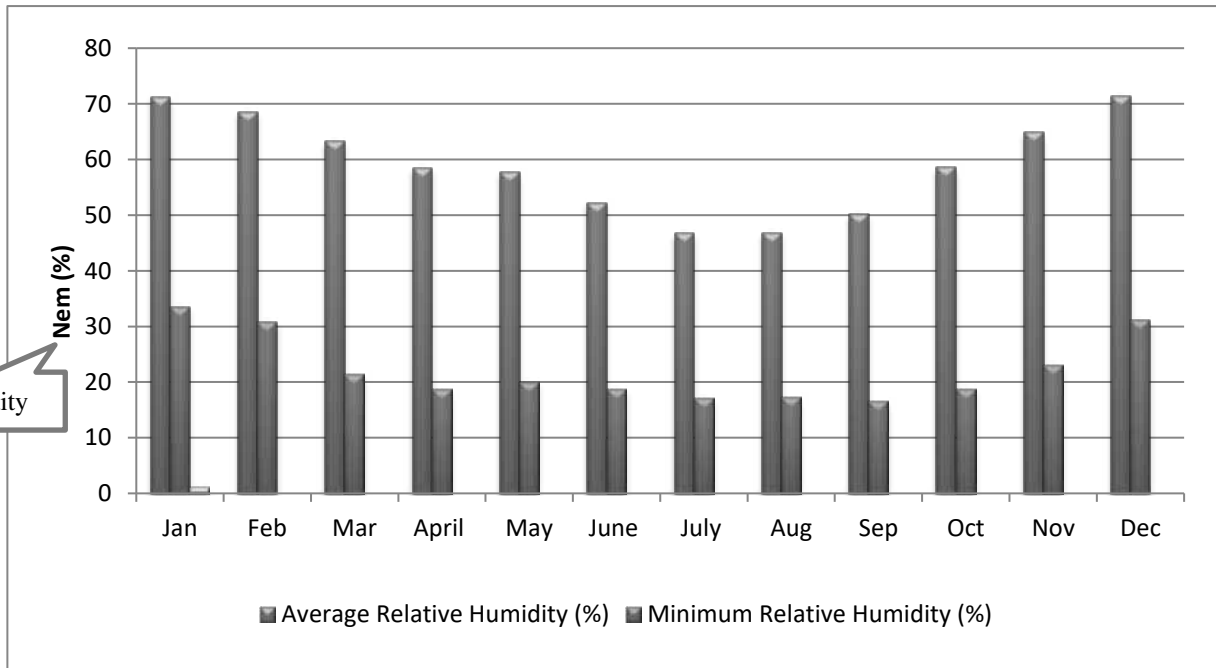
The annual average relative humidity is 59.1%.

The minimum relative humidity is 17.1%.

Table IV.2.9.4. Average, Minimum and Maximum Relative Humidity Values Table

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Relative Humidity (%)	71.2	68.5	63.3	58.5	57.7	52.2	46.7	46.8	50.1	58.6	64.8	71.3	59.1
Minimum Relative Humidity (%)	33.5	30.8	21.3	18.7	20	18.7	17.1	17.3	16.6	18.8	23.1	31.1	17.1

Source: MGM



Grafik IV.2.9.4. Average Humidity and Minimum Humidity Values Chart

IV.2.9.6. Counted Days (Number of Days with Snow, Snow Covered, Foggy, Hail, Frost, Thunderstorm)

According to the observation records of Develi Meteorology Station (1965 – 2016);

The annual average number of days with snowfall is 22.18 days.

The highest average number of days with snowfall is in January with 6.21 days.

The annual number of snow covered days is 49.45 days.

The average number of foggy days per year is 5.35 days.

The highest average number of foggy days is in December with 2.15 days.

The annual average number of hail days is 1.58 days.

The highest average number of hail days is in April with 0.33 days.

The annual average number of days with frost is 10.43 days.

The highest average number of days with frost is in November with 2.48 days.

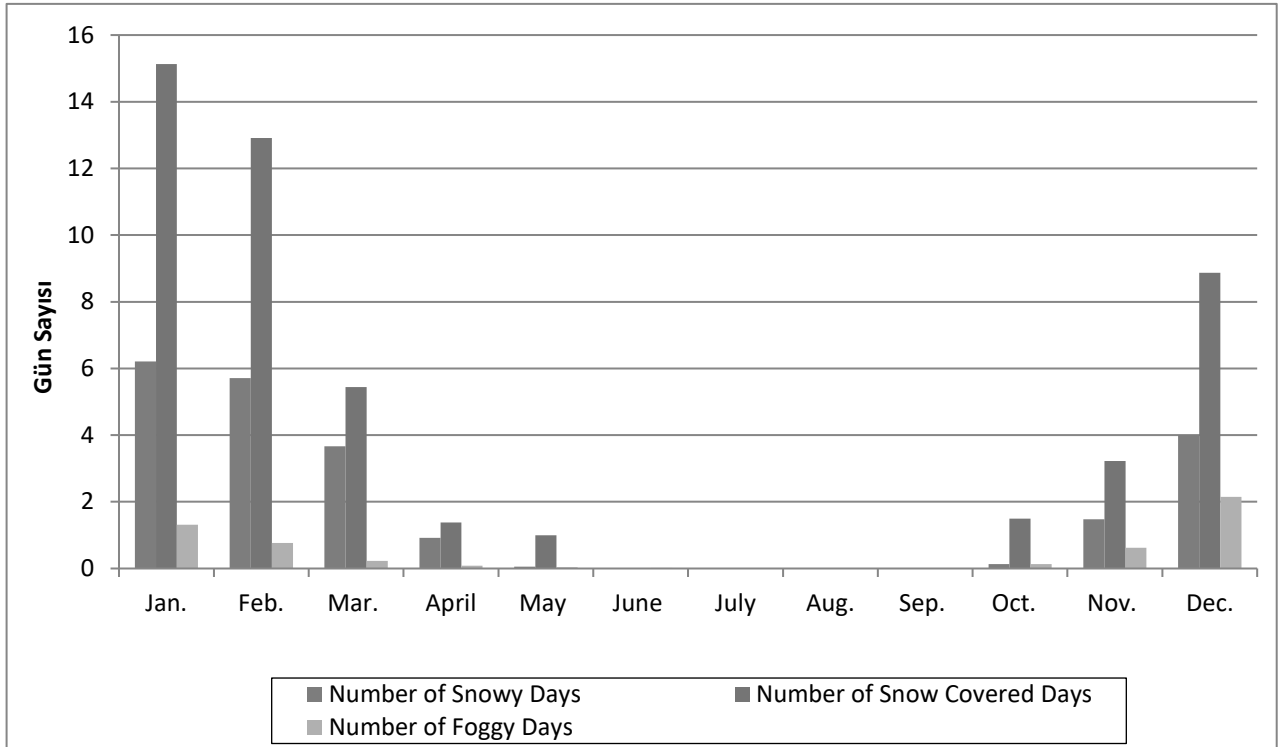
The annual average number of thunderstorm days is 1.15 days.

The highest average number of thunderstorm days is in May with 0.38 days.

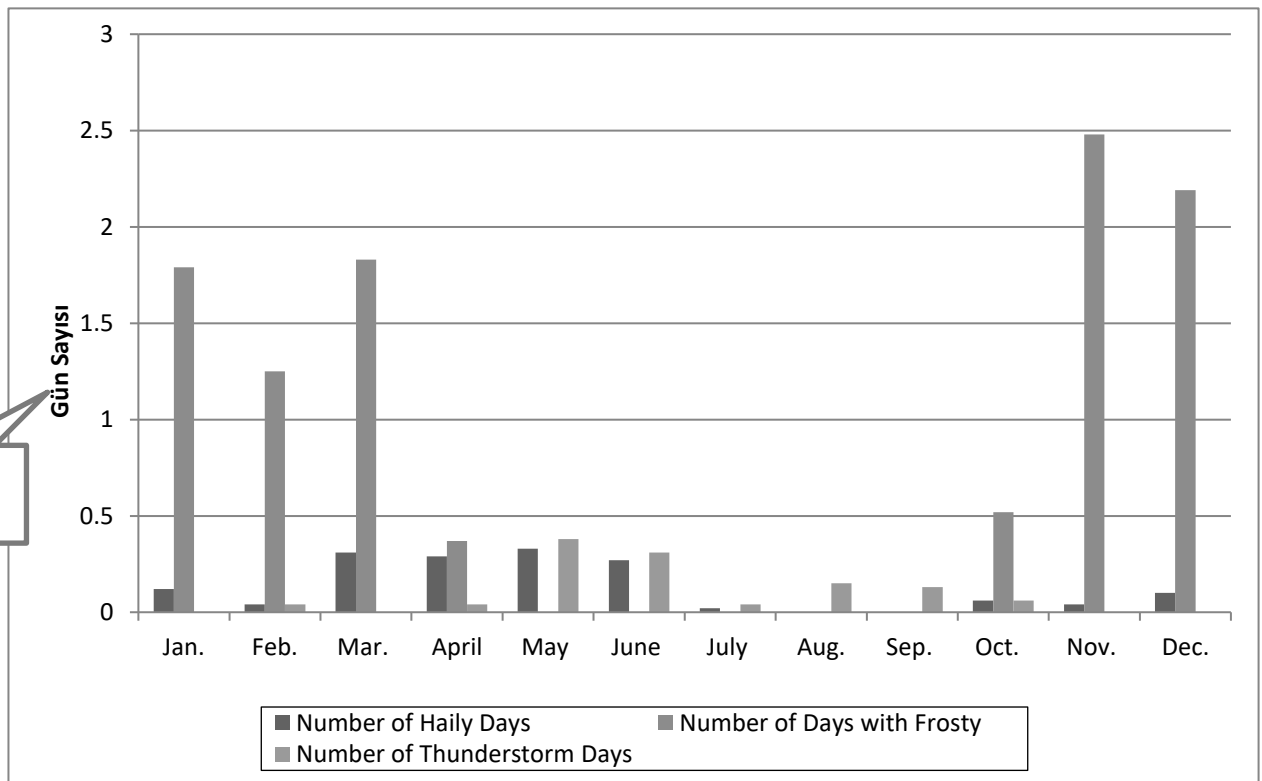
Table IV.2.9.5. Number of Days With Snow, Snow Covered, Foggy, Hail, Frost and Thunderstorm Values

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Number of Snowy Days	6.21	5.71	3.67	0.92	0.06	-	-	-	-	0.13	1.48	4	22.18
Number of Snow Covered Days	15.13	12.91	5.44	1.38	1	-	-	-	-	1.5	3.22	8.87	49.45
Number of Foggy Days	1.31	0.77	0.23	0.08	0.04	0.02	-	-	-	0.13	0.62	2.15	5.35
Number of Haily Days	0.12	0.04	0.31	0.29	0.33	0.27	0.02	-	-	0.06	0.04	0.1	1.58
Number of Days with Frosty	1.79	1.25	1.83	0.37	-	-	-	-	-	0.52	2.48	2.19	10.43
Number of Thunderstorm Days	-	0.04	-	0.04	0.38	0.31	0.04	0.15	0.13	0.06	-	-	1.15

Source: MGM



Graphic IV.2.9.5. Number of Days With Snow, Snow Covered, Foggy, Haily, Frosty and Thunderstorm Values



Graphic IV.2.9.6. Number of Days with Snow, Number of Days with Snow and Number of Foggy Days Values

IV.2.9.7. Maximum Snow Thickness

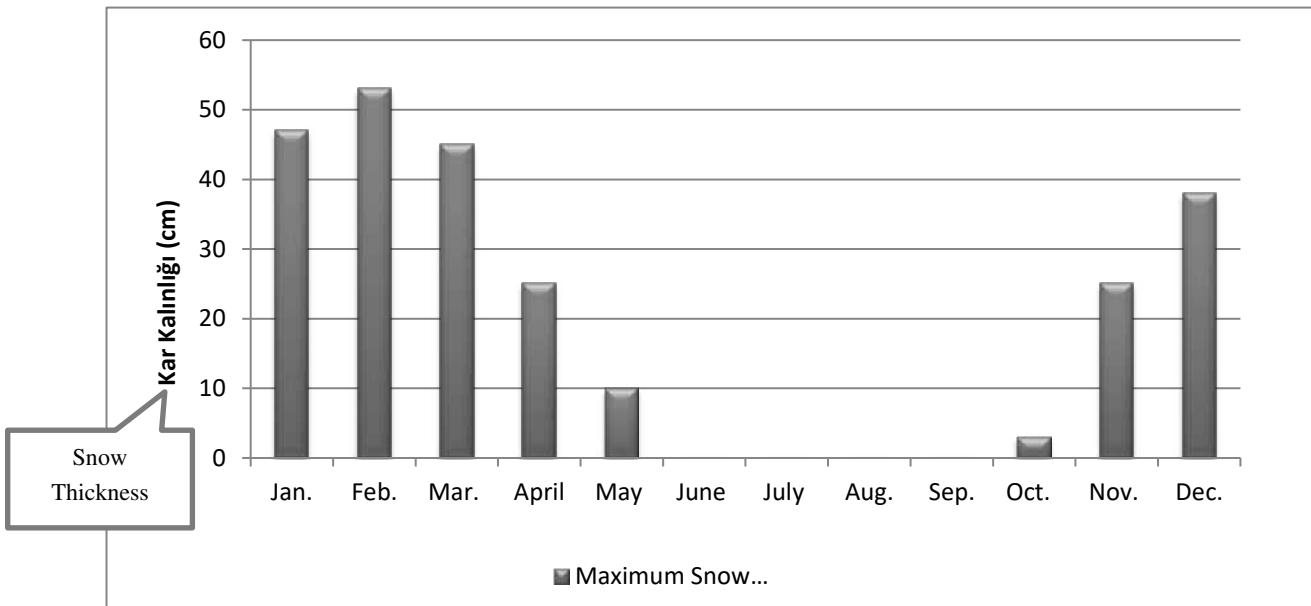
According to the observation records of Develi Meteorology Station (1965 – 2016);

Maximum snow thickness has been observed in February with 53 cm.

Table IV.2.9.6. Maximum Snow Thickness Values Table

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Maximum Snow Height (cm)	47	53	45	25	10	-	-	-	-	3	25	38	53

Source: MGM



Graphic IV.2.9.7. Maximum Snow Thickness Values

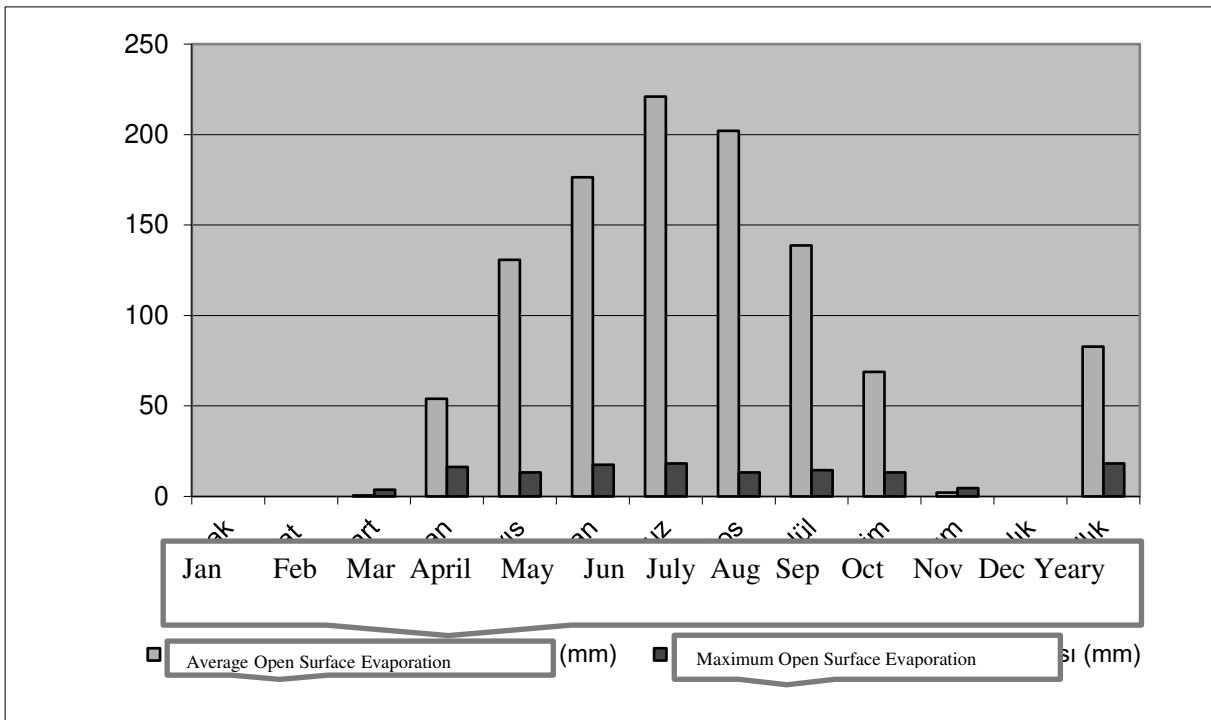
IV.2.9.8. Evaporation (Average open surface evaporation, Maximum open surface evaporation per day)

There is no evaporation data in the observation records of Develi Meteorology Station (1965 – 2016). However, When the closest Kayseri Meteorology Station data to the study area is examined, The average open surface evaporation is 994.4 mm and the maximum open surface evaporation was observed in July with 18.2 mm.

Table IV.2.9.7. Evaporation Values

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Open Surface Evaporation (mm)	-	-	0.5	53.9	130.8	176.4	221	202	138.8	68.9	2.1	-	994.4
Maximum Open Surface Evaporation (mm)	-	-	3.8	16.2	13.2	17.5	18.2	13.3	14.5	13.3	4.6	-	18,2

Source: MGM

*Chart IV.2.9.8. Average Open Surface Evaporation and Maximum Open Surface Evaporation Values*

IV.2.9.9. Wind

A-) Annual Wind Direction According to Blowing Numbers

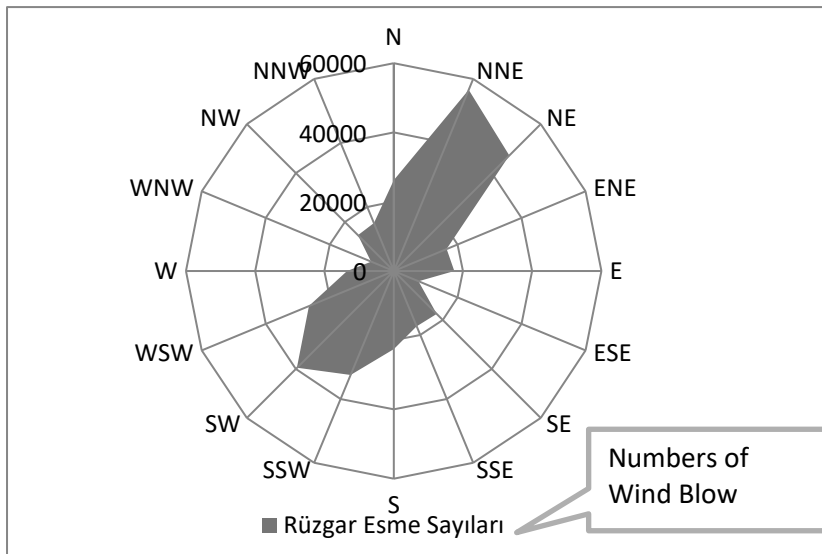
According to the observation records of Develi Meteorology Station (1965 – 2016); The 1st degree predominant wind direction with an annual number of blows 56624 is NNE (North-northeast), The 2nd degree predominant wind direction with the annual number of

blows 47229 is NE (Northeast) and The 3rd degree predominant wind direction with a blow number of 39533 is SW (Southwest).

Table IV.2.9.8. Total Number of Wind Blows According to Directions for Long Years

Dir.	1	2	3	4	5	6	7	8	9	10	11	12	Total
N	2914	2435	2271	1657	1900	1578	1761	1775	2378	2492	2502	2588	26251
NNE	5456	4646	4622	4120	4278	3913	3963	4093	4432	5225	5704	6172	56624¹
NE	5065	4591	4504	3503	2922	2738	2732	3081	3645	4617	5026	4805	47229²
ENE	1977	1609	1539	1145	1325	1179	1523	1399	839	1265	1173	1535	16508
E	1555	1608	1460	1360	1227	1314	1489	1457	1454	1491	1397	1715	17527
ESE	614	580	865	812	673	631	693	613	571	545	535	585	7717
SE	1822	1648	1707	1599	1647	1050	1406	1261	1260	1188	1477	1472	17537
SSE	1094	1188	1852	2118	1881	1317	1341	1284	1239	1340	1262	1377	17293
S	1629	1760	2119	2324	2174	1887	1840	1718	1933	1862	1798	1522	22566
SSW	2191	1880	2551	2965	3265	2924	3198	3097	2975	2681	2424	2355	32506
SW	2695	2248	3080	3383	3628	3845	3984	3613	3386	3465	3090	3116	39533³
WSW	1259	1326	1825	2107	2500	2846	3221	3320	2901	2187	1694	1291	26477
W	863	921	981	1118	1195	1714	1479	1342	1256	1118	731	773	13491
WNW	448	448	577	613	685	882	868	703	628	436	380	398	7066
NW	1333	1336	1396	1071	1266	1113	1191	1235	1284	1230	1182	986	14623
NNW	1339	1561	1374	1042	1003	859	1114	1081	1174	1379	1527	1556	15009

Source: MGM



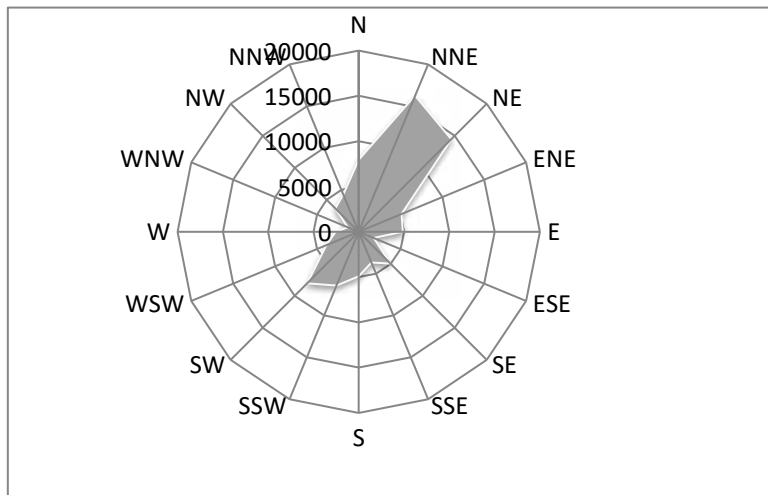
Graphic IV.2.9.9. Wind Diagram According to Number of Wind Blows According to Directions (Annual)

B-) Seasonal Wind Direction According to Blowing Numbers

1) Winter Season

Table IV.2.9.9. Table of Sum of Number of Wind Blows According to Directions in Winter Season

Dir.	Dec.	Jan.	Febr.	Total
N	2588	2914	2435	7937
NNE	6172	5456	4646	16274¹
NE	4805	5065	4591	14461²
ENE	1535	1977	1609	5121
E	1715	1555	1608	4878
ESE	585	614	580	1779
SE	1472	1822	1648	4942
SSE	1377	1094	1188	3659
S	1522	1629	1760	4911
SSW	2355	2191	1880	6426
SW	3116	2695	2248	8059³
WSW	1291	1259	1326	3876
W	773	863	921	2557
WNW	398	448	448	1294
NW	986	1333	1336	3655
NNW	1556	1339	1561	4456

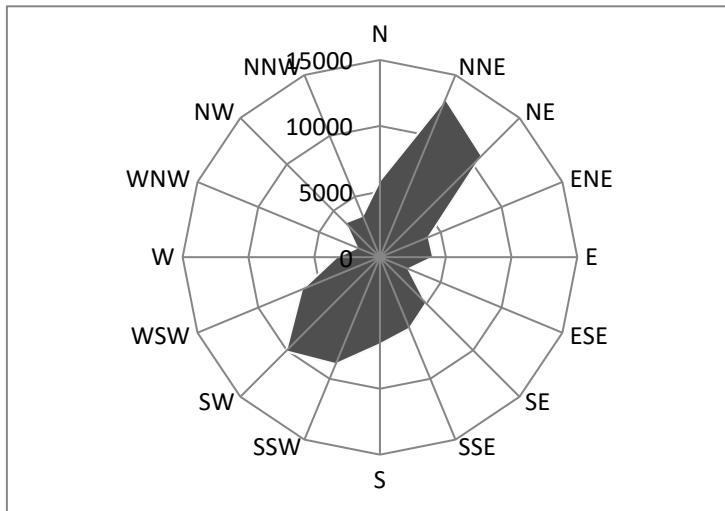


Graphic IV.2.9.10. Wind Diagram According to the Number of Wind Blows by Directions (Winter Season)

2) Spring Season

Table IV.2.9.10. Table of Total Number of Wind Blows According to Directions for Spring Season

Dir.	March	April	May	Total
N	2271	1657	1900	5828
NNE	4622	4120	4278	13020¹
NE	4504	3503	2922	10929²
ENE	1539	1145	1325	4009
E	1460	1360	1227	4047
ESE	865	812	673	2350
SE	1707	1599	1647	4953
SSE	1852	2118	1881	5851
S	2119	2324	2174	6617
SSW	2551	2965	3265	8781
SW	3080	3383	3628	10091³
WSW	1825	2107	2500	6432
W	981	1118	1195	3294
WNW	577	613	685	1875
NW	1396	1071	1266	3733
NNW	1374	1042	1003	3419

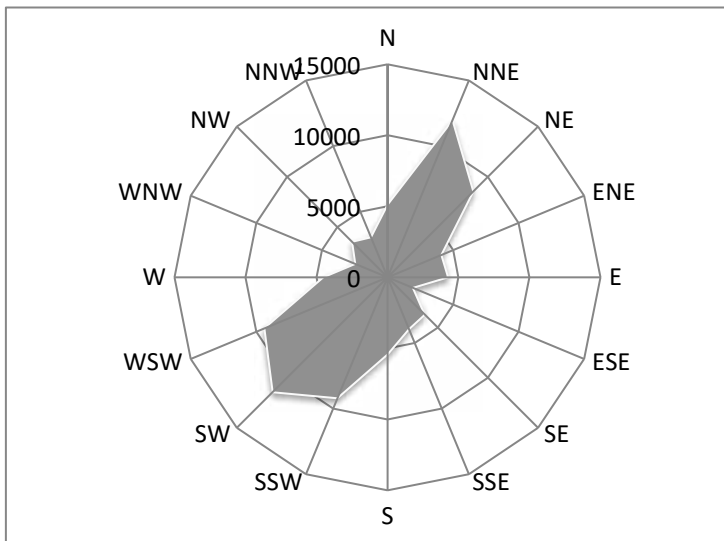


GraphicIV.2.9.11. Wind Diagram According to the Number of Wind Blows According to Directions (Spring Season)

3) Summer Season

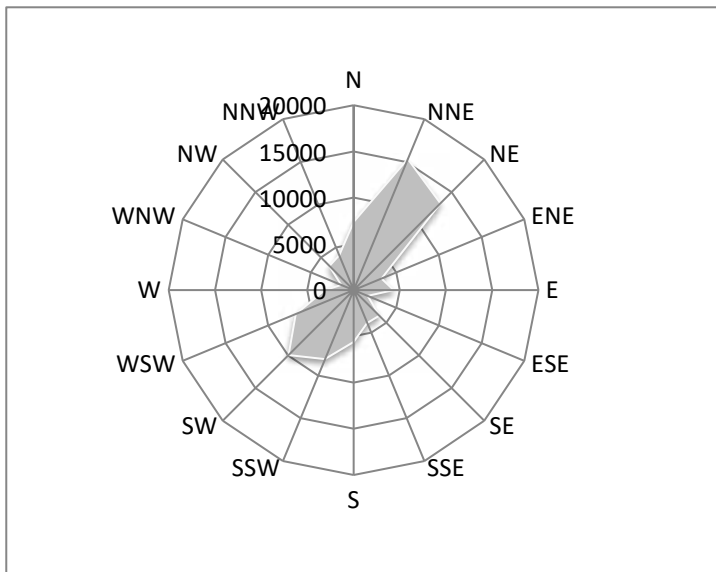
Table IV.2.9.11. Table of Sum of Number of Wind Blows According to Directions for Summer Season

Dir.	June	July	August	Total
N	1578	1761	1775	5114
NNE	3913	3963	4093	11969¹
NE	2738	2732	3081	8551³
ENE	1179	1523	1399	4101
E	1314	1489	1457	4260
ESE	631	693	613	1937
SE	1050	1406	1261	3717
SSE	1317	1341	1284	3942
S	1887	1840	1718	5445
SSW	2924	3198	3097	9219
SW	3845	3984	3613	11442²
WSW	2846	3221	3320	9387
W	1714	1479	1342	4535
WNW	882	868	703	2453
NW	1113	1191	1235	3539
NNW	859	1114	1081	3054



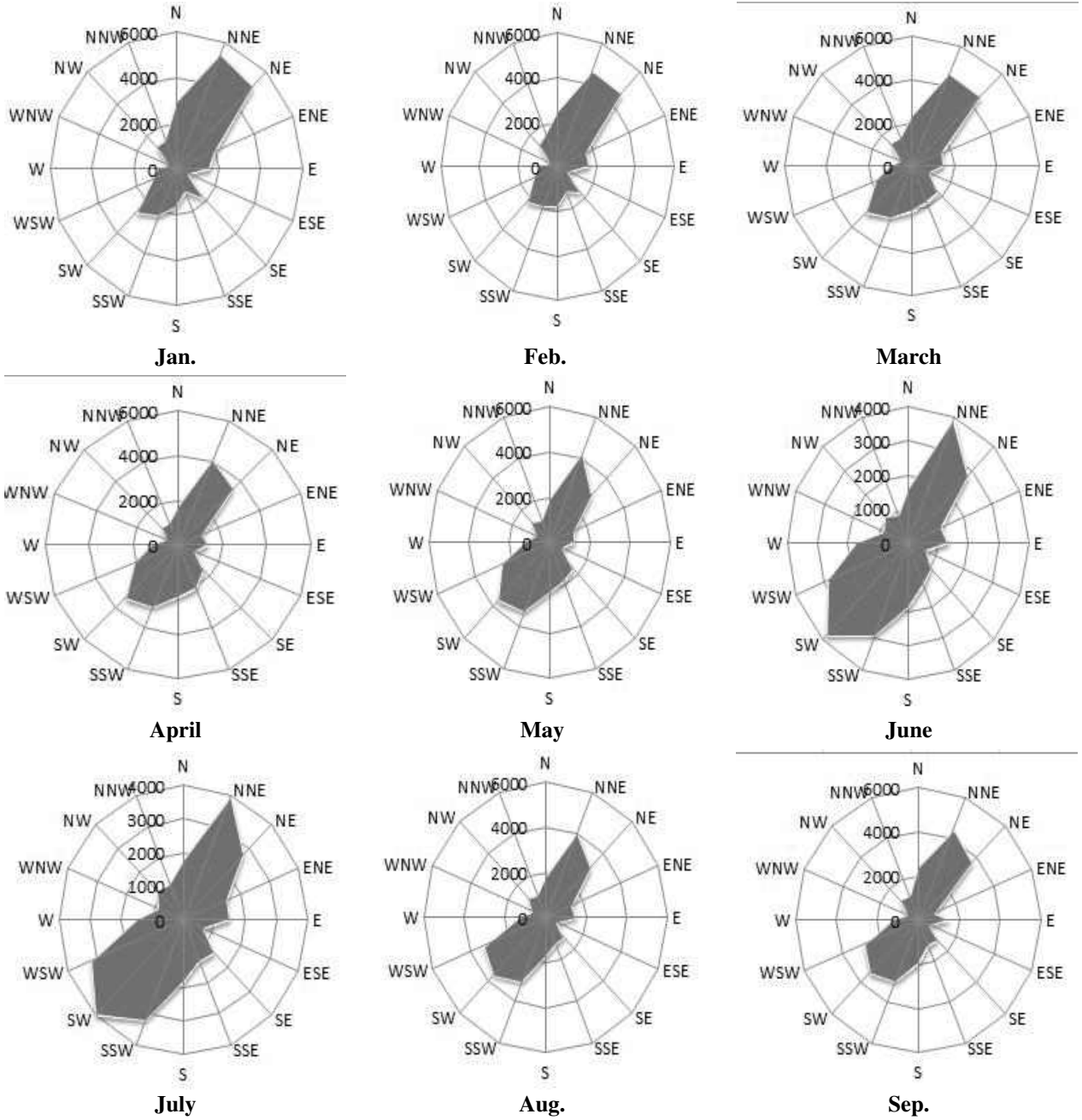
*Graphic IV.2.9.12. Total Number of Wind Blows According to Directions (Autumn Season)***4) Autumn Season***Table IV.2.9.12. Total Number of Wind Blows According to Directions in Autumn Season*

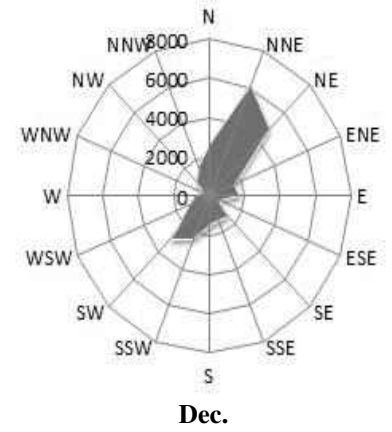
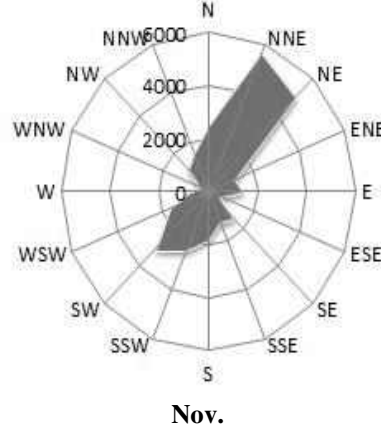
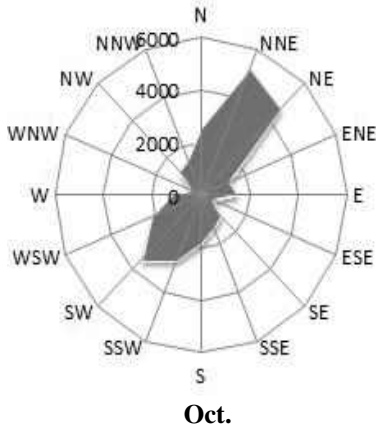
Dir.	September	October	November	Total
N	2378	2492	2502	7372
NNE	4432	5225	5704	15361¹
NE	3645	4617	5026	13288²
ENE	839	1265	1173	3277
E	1454	1491	1397	4342
ESE	571	545	535	1651
SE	1260	1188	1477	3925
SSE	1239	1340	1262	3841
S	1933	1862	1798	5593
SSW	2975	2681	2424	8080
SW	3386	3465	3090	9941³
WSW	2901	2187	1694	6782
W	1256	1118	731	3105
WNW	628	436	380	1444
NW	1284	1230	1182	3696
NNW	1174	1379	1527	4080



Grafik IV.2.9.13. Wind Diagram According to Number of Wind Blows According to Directions (Autumn Season)

C-) Monthly Wind Direction by Blow Numbers





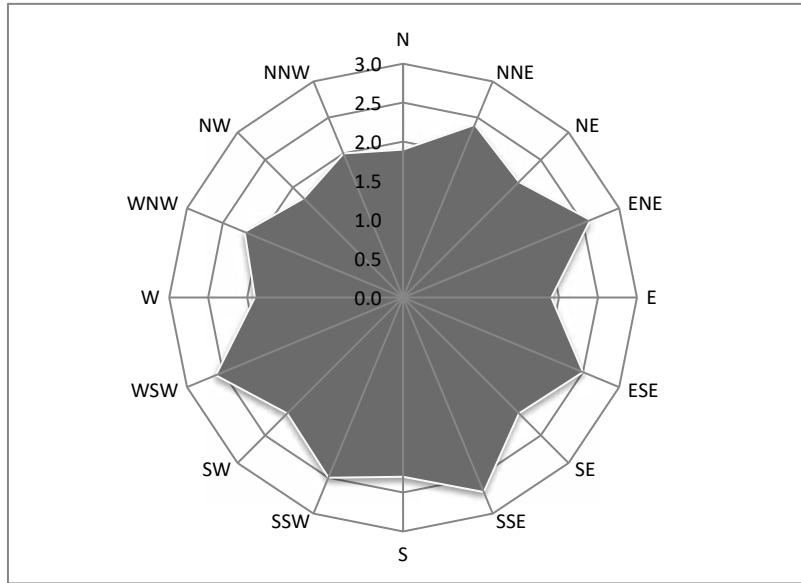
D-) Average Wind Speed by Direction

According to the observation records of Develi Meteorology Station (1965 – 2016); The average wind speeds according to the directions are given in the table below.

Table IV.2.9.13. Average Speed of Wind According to Directions for Long Years

Dir.	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
N	1.9	2	2.1	2.1	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.9	1.9
NNE	2.5	2.5	2.6	2.6	2.4	2.4	2.4	2.3	2.2	2.3	2.3	2.4	2.4
NE	2	2	2.2	2.1	2.2	2.2	2.3	2.2	1.8	1.8	1.8	2	2.1
ENE	2.4	2.8	2.9	2.7	2.5	2.9	3	2.9	2.2	2.4	2.2	2.4	2.6
E	1.8	2	2	2.4	1.8	2.1	2.2	2	1.6	1.5	1.7	1.6	1.9
ESE	2.4	2.7	2.8	3.1	2.5	2.5	2.3	2.5	2.2	2.2	2.2	2.2	2.5
SE	2	2.1	2.3	2.7	2.2	2.1	1.9	2	2	1.9	1.8	1.8	2.1
SSE	2.4	2.9	3.1	3.4	2.8	2.6	2.5	2.5	2.3	2.4	2.4	2.5	2.7
S	2.1	2.4	2.7	2.7	2.4	2.3	2.3	2.2	2.3	2.1	2.1	1.8	2.3
SSW	2.2	2.3	2.8	2.8	2.6	2.7	2.7	2.7	2.5	2.2	2.1	2.1	2.5
SW	1.8	2	2.3	2.4	2.3	2.3	2.2	2.2	2.2	1.9	1.7	1.6	2.1
WSW	1.9	2.1	2.9	2.9	3	3.2	3.1	3	2.9	2.4	2	1.9	2.6
W	1.5	1.7	2.3	2.2	2.3	2.5	2.1	2	2.1	1.6	1.5	1.2	1.9
WNW	1.7	1.8	2.5	2.6	2.6	3	2.5	2.5	2.3	1.9	1.7	1.7	2.2
NW	1.6	1.8	1.8	1.9	1.8	1.9	2	1.8	1.8	1.6	1.6	1.6	1.8
NNW	1.9	2.1	2.3	2.1	1.9	2	1.9	1.9	1.8	1.8	1.8	1.9	2.0

Source: MGM



Graphic IV.2.9.14. Wind Diagram According to Average Wind Speed Values for Long Years Directions (Annual)

E-) Average Wind Speed and Maximum Wind Speed and Direction

According to the observation records of Develi Meteorology Station (1965 – 2016);
The annual average wind speed is 2 m/s.

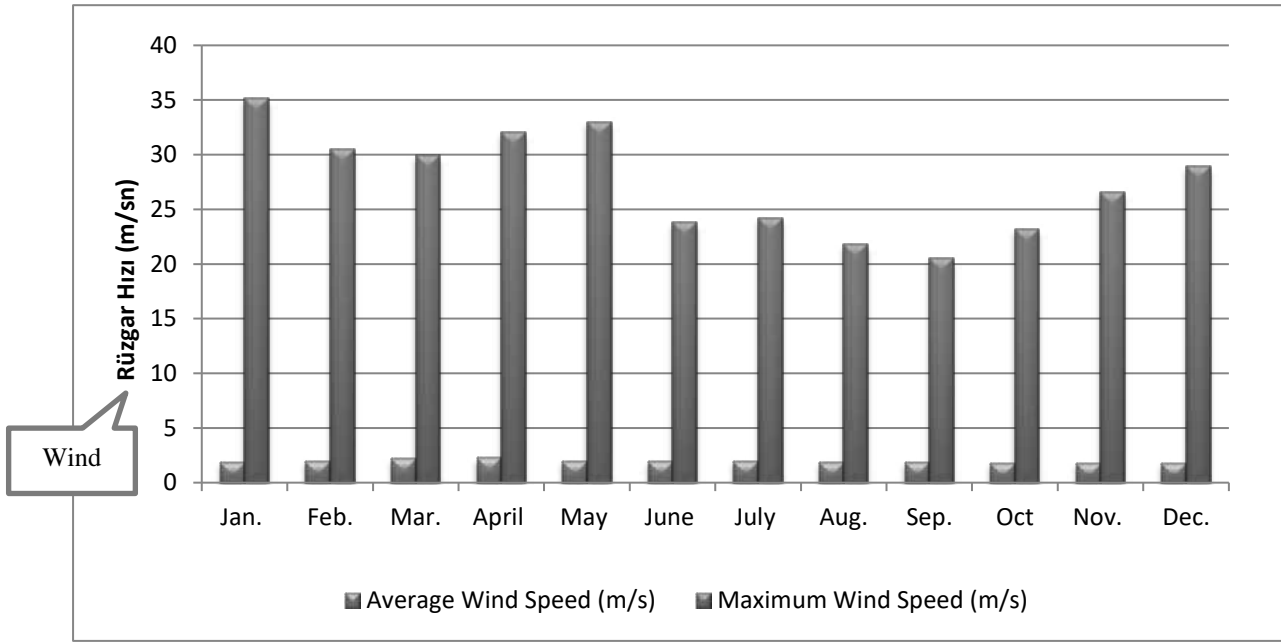
The direction of the maximum wind is south-southwest (SSW).

The maximum wind speed is 35.1 m/sec.

Table IV.2.9.14. Average Wind Speed and Maximum Wind Speed and Direction

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Wind Speed (m/s)	1.9	2	2.2	2.3	2	2	2	1.9	1.9	1.8	1.8	1.8	2.0
Maximum Wind Speed (m/s)	35.1	30.5	29.9	32	33	23.8	24.2	21.8	20.5	23.2	26.6	28.9	35.1
Maximum Wind Direction	SSW	S	SSE	S	ENE	NNW	WNW	NNE	SW	S	E	S	SSW

Source: MGM



Graphic IV.2.9.15. Average Wind Speed and Maximum Wind Speed Values

F-) Average Number of Stormy Days and Average Number of Strong Days

According to the observation records of Develi Meteorology Station (1965 – 2016);

The annual average number of stormy days is 13.58.

The month with the highest average number of stormy days is April with 2.58 days.

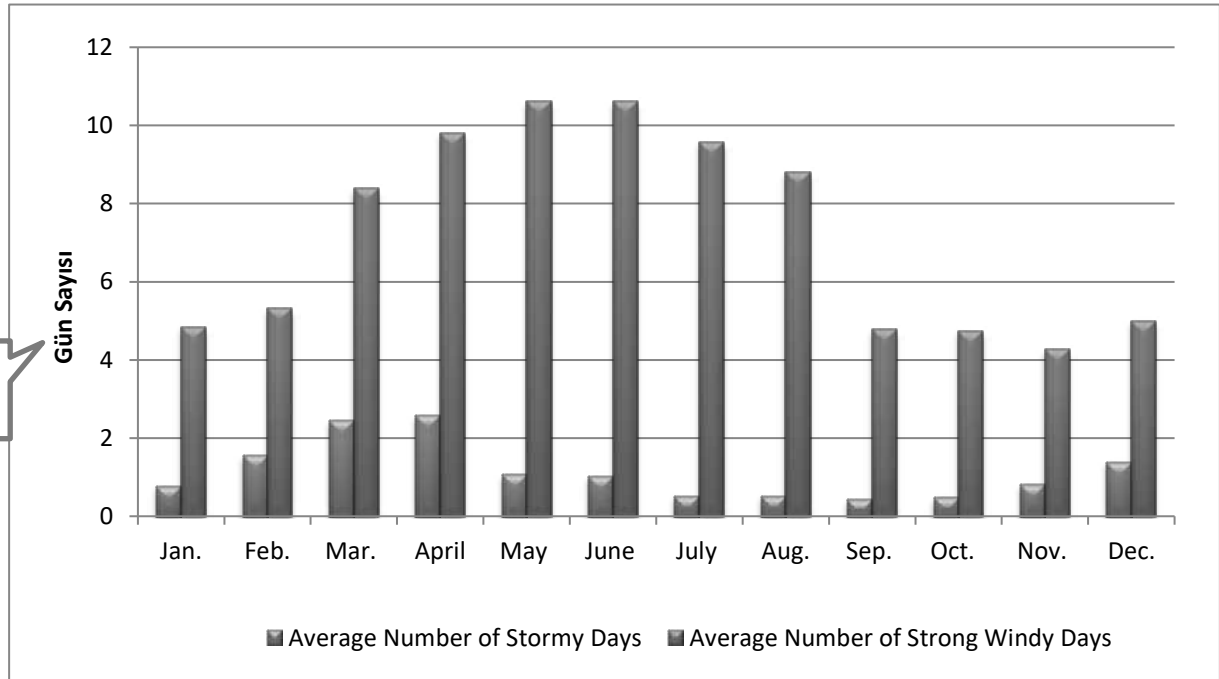
The annual average number of days with strong winds is 86.74.

The months with the highest average number of days with strong winds are May and June with 10.61 days.

Table IV.2.9.15. Average Number of Stormy Days and Average Number of Strong Days Values

Parameter	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Average Number of Stormy Days	0.77	1.55	2.45	2.58	1.06	1.03	0.52	0.52	0.42	0.48	0.81	1.39	13.58
Average Number of Strong Windy Days	4.84	5.32	8.39	9.81	10.61	10.61	9.58	8.81	4.77	4.74	4.26	5	86.74

Source: MGM



GraphicIV.2.9.16. Average Number of Stormy Days and Average Number of Strong Days Values

IV.2.9.10. FEVK (Extraordinary Observations) Information

The extraordinary observations taken from the General Directorate of Meteorology are given in the table below.

Table IV.2.9.16. Long Years Fevk Reports (Develi)

DEVELİ GENERAL LONG YEARS EXTRAORDINARY EVENT REPORTS TABLE					
YEAR	DATE	LOCATION	PROVINCE	EVENT	DAMAGE
1983	18.01.1983	Develi	Kayseri	Snow	Road traffic has been disrupted due to snow
1992	04.06.1992	Develi	Kayseri	Haily	Hail has damaged agricultural products
2001	31.01.2001	Develi	Kayseri	Drought	Current agricultural situation needs precipitation

IV.2.9.11. Emission Distribution Modeling Results

In air quality modeling studies, "Lakes Environmental AERMOD View" program, which is used by (License No: AER0005591) Ennotes Çevre Mühendislik Danışmanlık Elektrik Proje Taahhüt San. ve Tic. Ltd. Şti. with licensed, has been used. AERMOD 16216r version, which is the latest version of AERMOD published by US EPA on 20.12.2016, was used in the program.

In the project, it is assumed that all units for which emission calculations are made work at the same time. While determining the distribution of dust emissions from the project, 2 different scenarios have been studied, taking into account the working technology and the structure of the region. These scenarios can be summarized as follows.

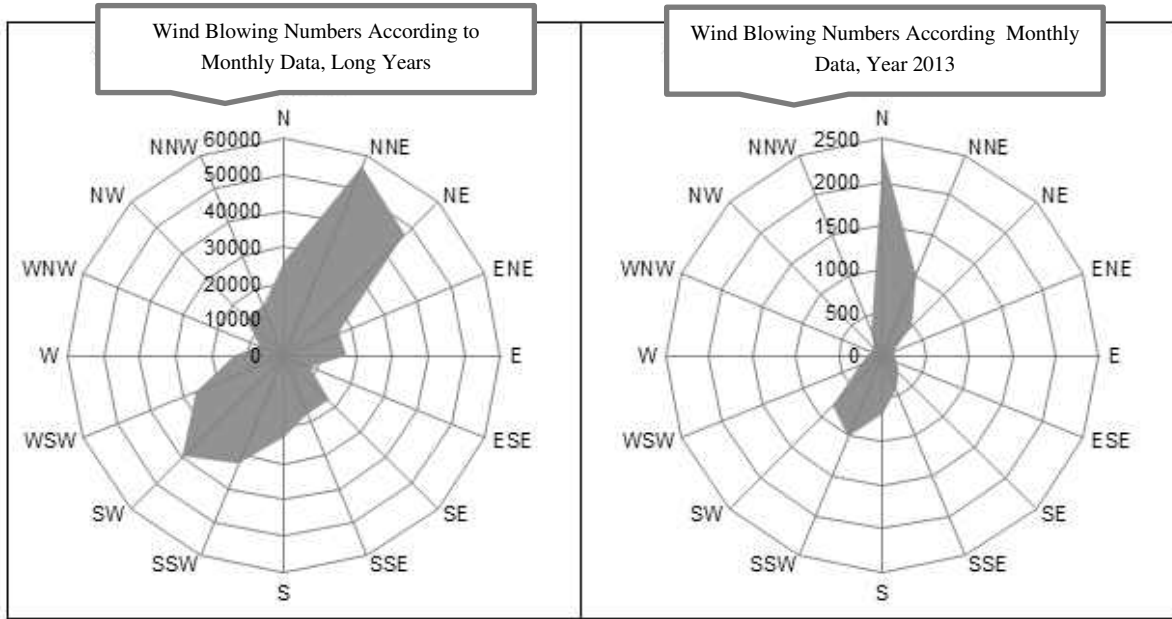
Scenario 1: Examining the cumulative emissions distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under uncontrolled operating conditions.

Scenario 2: Examination of the cumulative emission distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under controlled operating conditions.

Long-term meteorological data required for modeling studies are obtained from existing meteorological stations in the region. For the AERMOD model, hourly surface station data measured at air-conditioning, synoptic or automatic type stations and meteorological sounding data measured at ravinsonde type stations are required. In this study, It has been deemed appropriate to obtain the required hourly meteorological data sets from Develi Meteorology Station, which is the closest station to the project route and meteorological data belonging to this station have been used during modeling studies. Drilling data, on the other hand, have been obtained from Adana Meteorology Station, which is the closest to the project site among 8 ravinsonde stations in Turkey.

The AERMOD model uses 1-year meteorological data. For this reason, The year selection of the meteorological data to be used in the model should be made. Using the year's meteorological data representing the wind profile of the region increases the accuracy of the modeling work. In the modeling studies, it has been benefited from long years meteorology bulletin containing data obtained from Develi Meteorology Station and wind profile of the region has been drawn. The 10-year wind profiles have been examined and the year that matched the long years has been scanned. In the evaluation made according to long-term data, The first three prevailing wind directions have been determined as North-North East (NNE), North East (NE), and South West (SW) respectively.

When the blow numbers of the 10 years are examined, It is seen that the first three do not match exactly with the prevailing wind direction. In 2013, it is seen that the prevailing winds blow from the same sector with the prevailing wind direction for many years. It is seen that the numbers of the last ten years match with the first two aspects. For this reason, 2013 data have been used in modeling studies.



Graphic IV.2.9.17. Develi Meteorology Station Long Years and 2013 Wind Diagrams

The subject activity of the project is planned to be established by ENERJİSA ENERJİ ÜRETİM A.Ş. in Kayseri province, Yahyalı district, Çamlıca and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills Locations.

For the AERMOD model, the working area should be defined and this area should be allocated to the receiving environment elements. If the surface distribution of the non-flue emission sources (area source) specified in the regulation is greater than 0.04 km², the facility impact area is defined as a square-shaped area with a side length of 2 km, with the area in the middle of the source square. The facility impact area has been expanded by accepting the corner points of the EIA area as the midpoint of the area with a side length of 2 km. The modeling area is taken as a larger area to include the facility impact area and other facility and settlement impact areas that intersect with the facility impact area. This area includes the receiving environment points located at 500 m intervals.

Modeling Result:**Table IV.2.9.17. Air Quality Contributions of the Project**

Parameter	Parameter	Maximum HKKD ($\mu\text{g}/\text{m}^3$) and Coordinate Seen (X,Y)		HKDYY/ SKHKKY Limit values ($\mu\text{g}/\text{m}^3$)
		Scenario 1 (Cumulative Uncontrolled)	Scenario 2 (Cumulative Controlled)	
PM ₁₀	Daily (Max)	266,29 (716293, 4202273)	133,14 (716293, 4202273)	-
	Number of overtopping	15	9	35 Times in a Year
	Yearly	9,59 (716793, 4204273)	4,79 (716793, 4204273)	40
Sediment Dust	Monthly	15,66 (716793, 4204273)	7,83 (716793, 4204273)	390
	Yearly	12,25 (716793, 4204273)	6,12 (716793, 4204273)	210

Table IV.2.9.18. Air Quality Values of the Facility in Sensitive Receptors in the Influence Area

Parameter	Parameter	Recipient Region			Maximum YSK Values ($\mu\text{g}/\text{m}^3$) Coordinate (X,Y)		HKDYY/ SKHKKY Limit values ($\mu\text{g}/\text{m}^3$)
		Location	Distance (meters)	Direction	Scenario 1 (Cumulative Uncontrolled)	Scenario 2 (Cumulative Controlled)	
PM ₁₀	Daily	Avlağı Village	3000	Northeast	106,69	50,01	50 (Can Be Exceeded 35 Times)
		Çamlıca Village	3000	South	91,22	45,61	
	Number of Overruns	Avlağı Village	3000	Northeast	2	1	35 Times in a Year
		Çamlıca Village	3000	South	1	0	
	Yearly	Avlağı Village	3000	Northeast	1,23	0,62	40
		Çamlıca Village	3000	South	0,60	0,30	
Sediment Dust	Monthly	Avlağı Village	3000	Northeast	0,62	0,31	390
		Çamlıca Village	3000	South	0,40	0,20	
	Yearly	Avlağı Village	3000	Northeast	0,51	0,26	210
		Çamlıca Village	3000	South	0,11	0,06	

Annual average HKKD (Contribution Value to Air Pollution) shows the average of HKKD calculated using the meteorological data of 2013. It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION). It shows the maximum daily (24 hour) average values of HKKD (Contribution Value to Air Pollution), with the use of one year meteorological data, It shows the values of the day with the highest HKKD calculated for each day (by taking 24-hour averages). It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION).

The HKKD (Contribution Value to Air Pollution) obtained for PM10 and Settled Dust emissions is below the limit values specified in the SKHKKY. The cumulative maximum daily average HKD value calculated for PM10 does not exceed the targeted KVS (Short Term Limit Value) value given in the SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION) more than 35 times.

As a result, Dust emissions from the Erciyes Wind Power Plant Project with an installed power of 65 MWm / 65 MWe planned to be realized by ENERJİSA ENERJİ ÜRETİM A.Ş. in Kayseri province, Yahyalı district, Çamlıca and Yenice districts, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills, shall be ensure that it remains within regulation limit values. Implementation of the control measures specified in the regulations and standards shall prevent the negative air quality changes that may occur at the receiving points (Settlements, sensitive uses, etc.) by reducing the dust emission.

During the project, Measures and commitments specified in the Air Quality Distribution Modeling Report (See Annex: 26) shall be respected.

IV.2.10. Seismicity and natural disaster potential, cracks on the slopes and whether there are areas to slip, landslide and flood risk, slope stability, map showing slip movements on slopes, slip analysis (It should also be applied in case of excavation waste), Mass movements (landslide/debris flow), sensitivity analysis, landslide risk map, landslide precipitation relationship,

Earthquake Hazard and Risk Analysis of the Region

Earthquakes are ground shaking caused by deformations in the earth's crust with internal dynamic processes and resulting from ruptures defined as faults in geology. The magnitude (magnitude) of the earthquake depends on the amount of energy released during the fracture (faulting). The energy released by refraction generally decreases steadily with distance from the center of refraction. However, Unfavorable ground conditions sometimes caused by local geological features are the factor that disrupts this situation and cause the destructive effect of the earthquake to be more than expected despite being far from the

source. For this reason, when evaluating the earthquake potential of any region, Faults causing earthquakes (active faults) and local soil characteristics should be well known.

The activity area is approximately 16 km away from the Ecemiş fault. However, it remains in the 4th degree earthquake zone on the earthquake zones map. Earthquake Map of the Project is presented in Annex:11.

Kayseri province is in the 3rd degree dangerous earthquake zone. It is known that it was affected by destructive earthquakes in historical periods and there are some inscriptions in the city about their destruction. In the last century, the 1940 M=5.3 Erciyes earthquake caused damage to the city.

Yahyalı district of Kayseri province, where the project site is located, is within the "3rd Degree Earthquake Zone" in the Turkey Earthquake Zones Map, which was determined by the decision of the Council of Ministers dated 18.04.1996 and numbered 96/8109. In the 3rd degree earthquake zone, the effective ground acceleration coefficient is taken as $A_0=0.20$ g. It is necessary to comply with the provisions of the "Regulation on Buildings to be Constructed in Earthquake Zones" in all kinds of construction to be made in the study area.

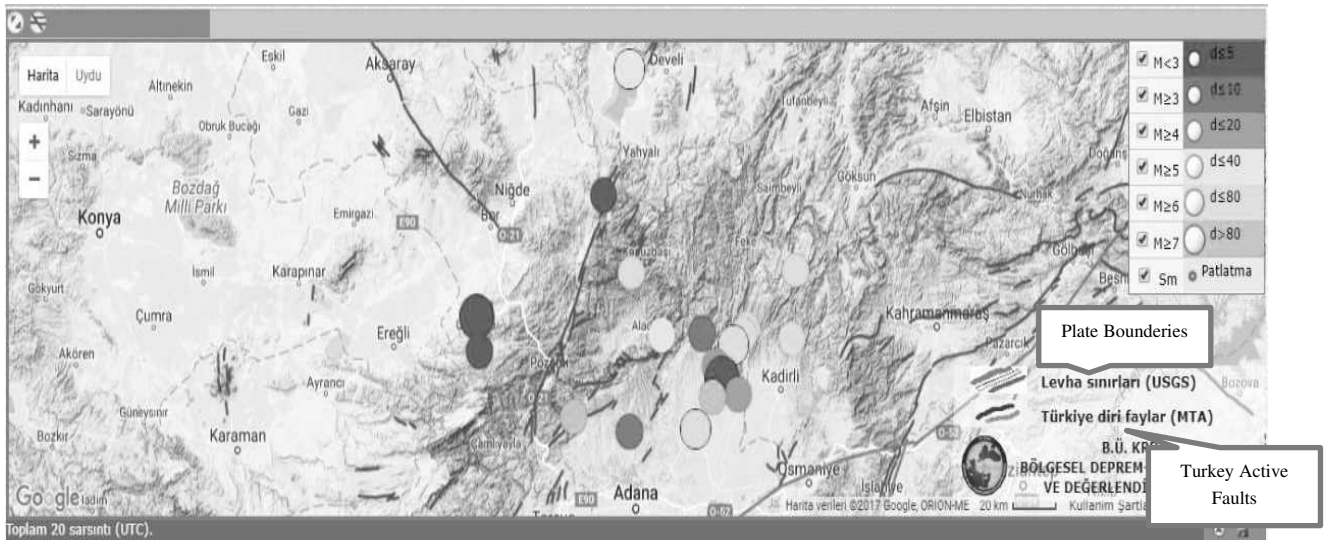


Figure IV.2.10.1. The distribution of earthquakes with a magnitude greater than 4.5 that have occurred from 1900 to the present within a 100 km radius of the study area (Taken from <http://udim.koeri.boun.edu.tr>).

Table IV.2.10.1. Earthquake data of $M_s > 4.5$ and above that occurred between 1900-2017 in the region bordered by a radius of 100 km, accepted as the center of Yahyalı

No	Date of occurrence	Time of occurrence	Latitude	Longitude	Der(km)	xM	Location
1	16.9.2012	07:54:15.54	37.4525	35.7538	18.7	4.7	GUNERI-KOZAN (ADANA) [West 1.6 km]
2	30.9.2011	20:40:13.71	38.0003	35.1603	5	4.5	SULUCAOVA-CAMARDI (NIGDE) [South East 1.8 km]

3	29.6.2011	19:48:05. 91	37.3605	35.8743	16.3	4.5	PEKMEZCI-KOZAN (ADANA) [North East 1.4 km]
4	24.7.2009	05:48:19. 39	37.555	35.6842	6.4	4.7	KUYTUCAK-KOZAN (ADANA) [South West 4.3 km]
5	12.11.2008	14:03:15. 00	38.828	35.5577	5	4.9	CAVUSAGA-KOCASINAN (KAYSERİ) [South West 12.6 km]
6	21.12.1985	05:05:36. 50	37.55	35.47	33	4.6	KIZILDAM-ALADAG (ADANA) [North West 2.2 km]
7	19.5.1980	15:50:33. 40	37.57	35.92	50	4.5	KARAHAMZALI-KOZAN (ADANA) [North West 2.8 km]
8	28.12.1979	03:09:08. 10	37.52	35.85	47	5.1	DURMUSLU-KOZAN (ADANA) [North East 1.6 km]
9	26.4.1979	09:28:01. 10	37.54	36.16	45	4.7	KOCLU-KADIRLI (OSMANIYE) [North West 5.3 km]
10	15.7.1976	20:24:11. 70	37.55	35.9	55	4.6	ESKIMANTAS-KOZAN (ADANA) [North West 2.1 km]
11	30.4.1971	06:10:03. 60	37.76	36.18	60	4.5	HALILBEYLI-SAIMBEYLI (ADANA) [South 3.5 km]
12	19.5.1969	18:14:25. 70	37.75	35.31	55	4.7	ULUPINAR-YAHYALI (KAYSERİ) [South West 7.6 km]
13	15.5.1969	13:08:13. 00	37.29	35	86	4.7	GULUSLU-KARASALI (ADANA) [North West 2.0 km]
14	22.10.1952	17:00:48. 50	37.25	35.65	70	5.7	IMAMOGLU (ADANA) [South West 1.3 km]
15	20.4.1941	22:23:13. 10	37.35	35.74	100	4.8	DIKILITAS-KOZAN (ADANA) [South East 2.5 km]
16	21.2.1940	00:50:00. 00	38.4	35.3	30	5.4	CAYIROZU-DEVELI (KAYSERİ) [South 2.6 km]
17	16.5.1929	01:22:51. 00	37.24	35.3	10	4.5	KOSEFAKILI-SARICAM (ADANA) [South West 2.8 km]
18	17.2.1908	03:00:01. 00	37.4	35.8	5	6	ISIKLI-KOZAN (ADANA) [East 0.4 km]
19	2.2.1908	00:00:01. 00	37.5	34.5	5	4.9	EMIRLER-ULUKISLA (NIGDE) [North West 3.1 km]
20	1.12.1907	00:00:01. 00	37.6	34.5	5	6.3	GUNEY-ULUKISLA (NIGDE) [South 3.8 km]

Table IV.2.10.2. Magnitude - Earthquake Numbers regression analysis

Ranges of large magnitude	$4.5 \leq M < 5.0$	$5.0 \leq M < 5.5$	$5.5 \leq M < 6.0$	$6.0 \leq M < 6.5$	$6.5 \leq M < 7.0$	$7.0 \leq M < 7.5$
Occurrence Counts	15	2	1	2	-	-

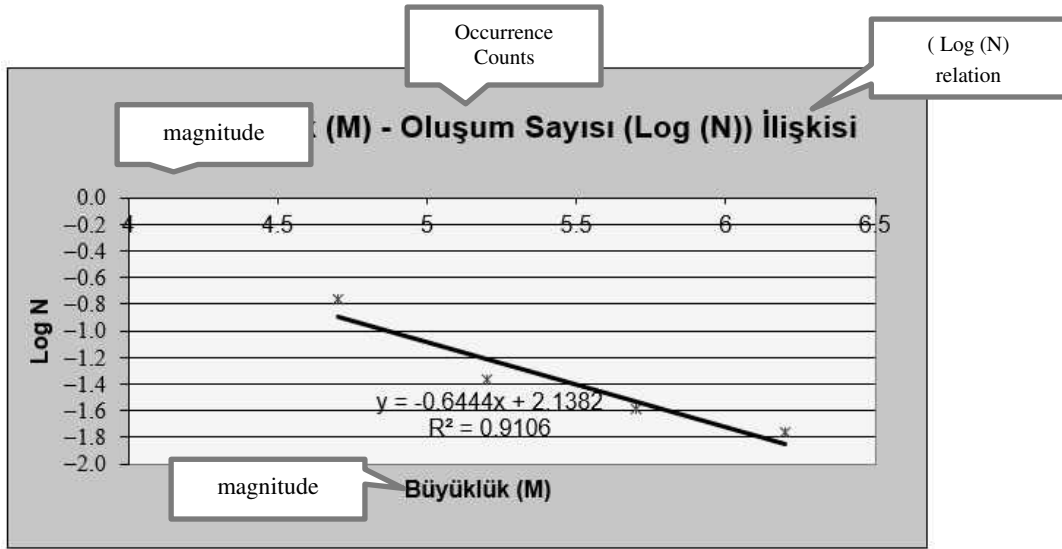


Chart IV.2.10.1. Magnitude Earthquake Numbers Regression Analysis Chart

Considering the lengths of the fault lines that have the potential to produce earthquakes in and around the study area and the risk analysis, These faults have the potential to produce small earthquakes (M=4-5.5). The probabilities of occurrence of earthquakes by years are given in Figure IV.2.10.2. The program prepared by Ferhat Özçep (2005) has been used in the calculations.

Poisson Probability Distribution

Average
Repetition
Period

magnitude

Poisson Olasılık Dağılımı

N(M)	Büyükük (M)	R _m = 1 - e ^{-(N(M) * D)}				Ortalama Tekrarlama Periyod (Yıl)
		D (Yıl) İçin Olasılık (%)	D (Yıl) İçin Olasılık (%)	D (Yıl) İçin Olasılık (%)	D (Yıl) İçin Olasılık (%)	
0.071679	4.5	51.2	97.2	99.5	99.9	14
0.052889	5	41.1	92.9	98.1	99.5	19
0.039025	5.5	32.3	85.8	94.6	98.0	26
0.028795	6	25.0	76.3	88.5	94.4	35
0.021247	6.5	19.1	65.4	79.7	88.1	47
0.015677	7	14.5	54.3	69.1	79.1	64
0.011568	7.5	10.9	43.9	58.0	68.5	86

Yukarıdaki D (yıl) ve %
olarak aşılma oranı için
İvme değerleri

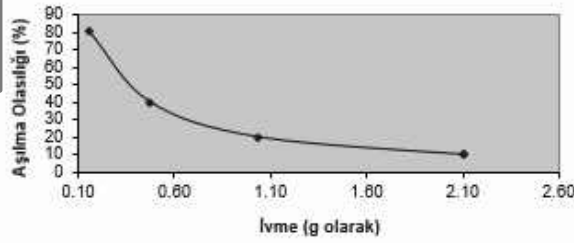
D (yıl)	% Aşılma Olasılığı	M (büyükük)
50	10	10.3

Er. Farklı Ölçü

Δ, Episantral Uzaklık (km)	H, odak Derinliği (km)
25	15

Ayrıntılı analiz için İvme azalımı ilişkileri
bölümü için tıklayınız !

İvme (g)	Donzvan(1975e)	Oliviers (1974)	Joyner ve Boore (1981)	Campbell (1987)	Ortalama	Tehlike Düzeyi
	0.98	1.61	2.10	3.04	1.93	Yüksek Tehlike

According to Joyner and Boore
(1981) Attenuation relationship,
Acceleration - Probability of
Exceeding relationship (Hazard
Curve)Joyner ve Boore (1981) Azalım İlişkisine göre
İvme - Aşılma Olasılığı İlişkisi (Tehlike Eğrisi)

European Seismological Commission's (ESG) Göre	
Tehlike Düzeyi	İvme Değeri
Düşük Tehlike	< 0,08g
Orta Tehlike	0,08g - 0,24g
Yüksek Tehlike	> 0,24g

Level of Hazard Momentum Value
Low Risk
Medium Risk
High Risk

Figure IV.2.10.2. Probability of Earthquake by Years

(In order: Earthquake Magnitude, Probability for D (years), Dangerous Level, Low Hazard, Medium Hazard, High Hazard)

➤ According to Probabilistic Earthquake Hazard Analysis and Poisson Probability Distribution;

The probability of an earthquake of magnitude **M= 5.0** occurring within 10 years is 41.1%, the probability of it occurring within 50 years is 92.9%, and the probability of occurring within 100 years is 99.5%. The average recurrence period is 19 years.

The probability of an earthquake with a magnitude of **M= 5.5** occurring within 10 years is 32.3%, the probability of it occurring within 50 years is 85.8%, and the probability of occurring within 100 years is 98%. The average recurrence period is 26 years.

The probability of an earthquake of magnitude **M= 6.0** occurring within 10 years is 25%, the probability of it occurring within 50 years is 76.3%, and the probability of occurring within 100 years is 94.4%. The average recurrence period is 35 years.

The probability of an earthquake with a magnitude of **M= 6.5** is 19.1%, within 50 years 65.4%, and within 100 years 88.1%. The average recurrence period is 47 years.

The probability of an M= 7.0 earthquake to occur within 10 years is 14.5%, within 50 years is 54.3%, and within 100 years is 79.1%. The average recurrence period is 64 years.

The probability of an earthquake with a magnitude of $M= 7.5$ occurring within 10 years is 10.9%, the probability of it occurring within 50 years is 43.9%, and the probability of occurring within 100 years is 68.5%. The average recurrence period is 86 years.

The activity area is located in an area consisting of massive limestones and turbine areas are located at the summits. Due to the nature of the activity, large-scale excavation shall not be carried out, so there is no possibility to create any landslide risk.

IV.2.11. Other Features.

There is nothing else that needs to be explained in this section.

IV.3. Characteristics of Socio-Economic Environment

IV.3.1. Economic characteristics and social infrastructure services (main sectors that make up the economic structure of the region, the distribution of local workforce to these sectors, the place and importance of the production of goods and services in the economy of the region and the country, other information); Income (Distribution of income in the region by business lines, maximum, minimum and average income per capita by business lines); Unemployment (Ratio of unemployed population and active population in the region), (Education, health, cultural services and utilization of these services),

ECONOMIC STRUCTURE

It would be appropriate to mention carpet weaving as the oldest activity in Yahyalı district. Also; Apple Farming, Livestock, Mining and Transportation related to Mining constitute the main economic activities. Mine transportation has developed as the locomotive sector.

Main source of livelihood of Yerköy, Mustafabeyli, Kocahacılı, Kopçu, İlyaslı, Yuları, Çubuklu and Senirköy Neighborhoods from the District Center and plain quarters, is field agriculture, fruit growing and other commercial and industrial crops. Irrigated agriculture is practiced in these neighborhoods. Dry farming (cereals, legumes) is practiced in the other 21 neighborhoods.

Animal husbandry, which is of great importance in terms of its contribution to the economy of the district, constitutes an important source of income throughout the district.

Table IV.3.1.1. Regional industry and services sector indicators, 2011

	Share of local unit numbers in Turkey's total	The share of the number of employees in Turkey's total	Share of salaries and wages in Turkey's total	Share of gross investments in tangible goods in Turkey's total

TR72 Kayseri, Sivas, Yozgat	(%)	Seq.	(%)	Seq	(%)	Seq	(%)	Seq
	2,7	15	2,5	13	2,0	11	2,1	13

Source: TUIK with Selected Indicators, Kayseri, 2013

Agriculture

There are approximately 5,000 farmer families in Yahyalı. If it is assumed that an average farmer family consists of 4 people, it is understood that 20,000 people earn their living directly from the agricultural sector. The main source of livelihood of District Center and plain villages Yerköy, Mustafabeyli, Kocahacılı, Koççu, İlyaslı, Yuları, Çubuklu and Senirköy Villages, is field agriculture, fruit growing and other commercial and industrial crops.

Again, one of the main livelihoods of all our villages is cattle and small cattle breeding.

Table IV.3.1.2. Yahyalı Agricultural Production Areas

County Name	Year	Total Area (decare)	Sown area of cereals and other plant products (decares)	Fallow area (decare)	Vegetable gardens area (decare)	Area of fruit, beverage and spice crops (decares)	Ornamental Plants Area (Decare)
Yahyalı	2016	257.371,00	187.881,00	30.574,00	1.471,00	37.445,00	0,00

TUIK,2016

Table IV.3.1.3. Irrigation Values of the Lands

Dry Farming	203.140 Decare	
Irrigated agriculture	70.000 Decare	
Irrigated Agriculture Total	Ağçaşar Dam	Drilling and Spring Waters
70.000 Dk.	40.000 Dc	30.000 Dk

The full water capacity of Ağçaşar Dam, which meets the water needs of 57% of the irrigated areas in the district, is 61,000,000 m³. 2.500.000 m³ of this volume is dead volume. In 2005, due to insufficient rainfall, 20.000.000 m³ of water could be collected and 17.500.000 m³ of irrigation water could be given. The total irrigation area of the dam is 80,000 decares, 40,000 decares in the District, 40,000 decares in the Villages of Develi and Yeşilhisar Districts.

Dry farming has been carried out in the Gögönük location, which has the potential of 20.000 decares of agricultural land, which is one of the important agricultural areas within the boundaries of the District Center, in a part of 10.000 decares of Taşhan Village Lands and in

the part of Dikme Village lands, which can be irrigated with 1,500 decares of land. The registered current pasture amount of the district is 601.592 decares in total.

Apple Cultivation is one of the most important inputs for the District Economy. Apple cultivation is carried out on 27,450 decares of the fruit growing area occupying an area of 27,990 decares.

As a result of the research carried out by the District Agriculture Directorate, It has been determined that an annual average of 54,900 tons of apples is produced in these apple orchards. 15,500 tons of this production is kept in 3 cold storages in the district, and 21,500 tons are stored in land warehouses. Approximately 17,900 tons of total production is used in fruit juice production and given to fruit juice factories.

Table IV.3.1.4. Agricultural Land Use by District, 2013

Districts	Total cultivated agricultural area and perennial crops area	Total cultivated Agricultural area	Field of cereals and other herbal products		Vegetable gardens area	Ornamental Plants Area	Total	Other fruits beverage and spice crops field	vineyard area	forage crops area
			Planted	Fallow						
Kocasinan	101.378	100.671	46.689	53.497	485	-	707	208	499	1.321
Melikgazi	16.792	16.369	5.721	10.581	66	1	424	163	260	30
Akkışla	9.838	9.764	6.619	3.128	18	-	74	73	1	930
Bünyan	54.005	53.736	34.228	19.422	86	-	270	268	2	1.040
Develi	65.802	65.217	46.220	10.758	8.239	-	586	386	200	5.632
Felahiye	17.670	17.500	9.577	7.920	4	-	170	10	160	90
Hacılar	2.799	2.615	1.299	1.255	60	-	184	34	150	75
İncesu	27.088	23.380	12.160	10.746	474	-	3.707	32	3.675	440
Özvatan	13.831	13.070	7.433	5.631	6	-	761	50	711	327
Pınarbaşı	100.497	100.45	48.216	52.136	102	-	44	44	-	3.607
Sarıoğlan	41.336	41.314	21.932	19.334	48	-	22	22	-	916
Sarız	11.945	11.900	11.053	834	13	-	45	45	-	3.333
Talas	22.915	21.588	11.370	8.133	2.085	-	1.327	35	1.293	898
Tomarza	58.044	58.007	39.411	5.596	13.000	-	37	37	-	1.161
Yahyalı	26.020	21.983	19.523	2.311	149	-	4.037	3.087	950	1.340
Yeşilhisar	35.239	32.222	25.611	4.915	1.695	-	3.018	2.568	450	6.400

Livestock:

Animal husbandry, which is of great importance in terms of its contribution to the economy of the district, constitutes an important source of income throughout the district.

Table IV.3.1.5. Bovine - Ovine and Poultry Assets in Yahyalı District, 2016

Animal Name	Adult	Young-Cub	Total	Number of animals milked (head)	Milk (Tons)
Beef (Culture)	3.966	1.388	5.354	2.513	9.791,583
Cattle(Domestic)	2.068	420	2.488	1.008	1.400,592
cattle (cross)	3.114	259	3.373	1.736	4.802,212
sheep (native)	49.443	6.525	55.968	36.517	2.994,425
Goat (bristle)	17.809	5.252	23.061	12.045	1.240,598
Laying hen	9.923 pcs				

TUIK,2016

A total of 15,994,387 liters of milk is obtained annually from 9,148 milked cows and is consumed as drinking milk, cheese, yoghurt and other dairy products in the domestic and foreign markets.

A total of 131,000 kg of filtered and combed honey is produced annually from bee hives in the district and is sold in the domestic and foreign markets.

Table IV.3.1.6. Animal Production by Districts, TUIK (Turkish Statistical Institute) 2013

	Number of cattle (Head)	Number of sheep (Head)	Number of goats (Head)	Milk production (Tons)	Honey production (Tons)	Number of poultry (piece)
TR721 Kayseri	286 375	527 852	60 459	320 068	518	4 570 831
Kocasinan	35 789	41 742	3 164	25 531	18	3 370 193
Melikgazi	15 117	15 068	1 818	17 077	25	492 715
Akkışla	6 958	55 854	2 508	15 072	5	2 595
Bünyan	33 506	39 885	3 710	36 841	8	11 191
Develi	53 131	53 730	4 197	60 525	128	97 010
Felahiye	4 282	9 055	1 300	5 100	-	961
Hacılar	2 845	8 870	844	5 270	20	1 442
Ğncesu	13 328	47 175	7 154	18 190	30	29 250
Özvatan	2 771	4 720	582	3 496	6	1 025
Pınarbaşı	27 139	92 250	1 850	31 577	29	10 440
Sarıoğlan	18 747	11 384	559	26 313	4	19 590

Sarız	15 290	28 665	778	17 699	15	6 940
Talas	13 187	7 350	659	14 195	13	334 675
Tomarza	14 603	15 470	1 515	10 863	50	30 500
Yahyalı	12 394	57 634	27 182	21 133	132	10 744
Yeşilhisar	17 288	39 000	2 639	11 188	36	151 560

Forest Sector: The main source of employment and income of the forest villagers, especially in the southeastern part of the district, is forest cutting. There are 3 Regional Chiefs under the Operations Directorate. Sultan Sazlığı Bird Sanctuary and Kapuzbaşı Waterfalls and Nature Park, which are within the scope of the Forestry Management Directorate and whose hunting protection and production activities are of international importance, have been taken from here and given to Kayseri National Parks Engineering. Derebağ Waterfall is within the boundaries of the forest.

There is a total of 44,451 hectares of forest in the district, of which 11,313 hectares are productive and 33,138 hectares are degraded. In these forests, there are 1.435.075 m³ productive 216.649 m³, second class timber 246.026 ster coppice trees.

Mining: In terms of natural wealth, the district has quarries that are rich in iron ore, lead mixed with gold, zinc mixed with silver and chrome. The current annual production is around 2-2.5 million tons, while iron ore production has an important place, zinc and chromium mines are also operated. Although it is known that there are rich chromium deposits in addition to 20 million tons of iron, 2 million tons of zinc and zinc mixture lead reserves as visible reserves in the district, the amount of chromium deposits has not been determined yet. 25 companies and 13 individuals registered in the Trade Registry operate in the field of mining in the district. Around 500 workers are employed in the mines.

INCOME

The first four provinces with the highest share in the gross domestic product in 2014 constitute 49.9% of the total gross domestic product. The last fifteen provinces with the lowest GDP (Gross domestic product) share has received 2.1% of the total gross domestic product. Kayseri has ranked 12th with 1.5% in the Gross Domestic Product share ranking on a provincial basis.

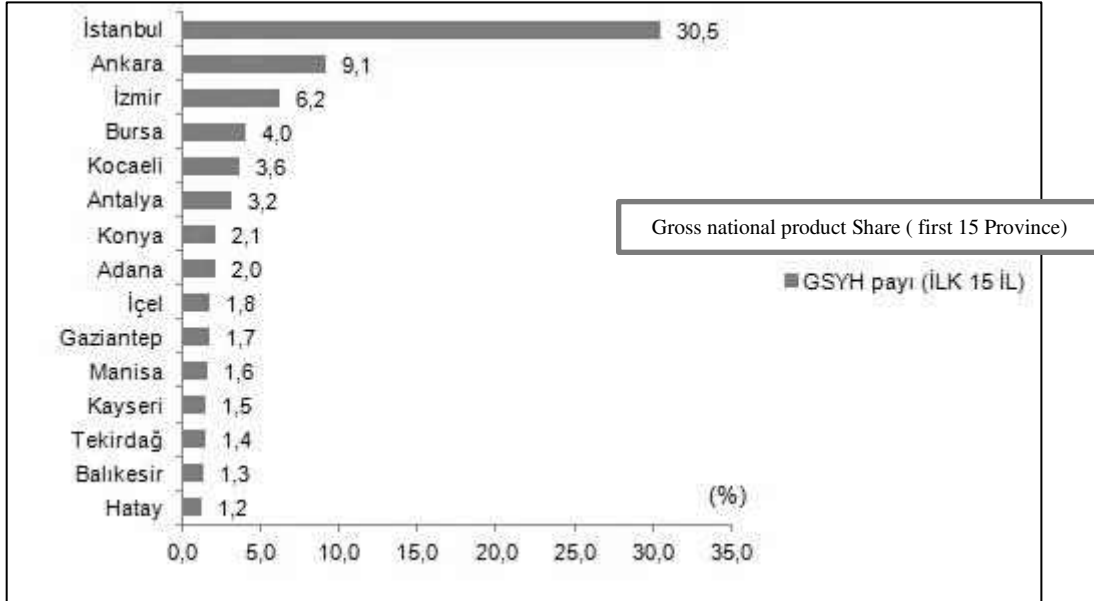


Chart IV.3.1.1. Gross Domestic Product share by province, first 15 provinces, (Turkish Statistical Institute .2014)

According to TUIK (Turkish Statistical Institute) data, Considering the sectoral shares of regional gross value added in TR72 (Kayseri, Sivas, Yozgat) region at current prices, the services sector constitutes the largest share with 54.7% in 2011. In the same year, the industrial sector comes in second with 30%.

Table IV.3.1.7. Gross value added per regional capita

REGION		2011	
		(\$)	Rank
TR72	Kayseri, Sivas, Yozgat	6 675	16

Source: TUIK with Selected Indicators, Kayseri, 2013

LABOR AND EMPLOYMENT STATUS

Table IV.3.1.8. Labor Force Participation Rates, 2013

Labor force participation rate			
Ratio	coefficient of variation (%)	Lower limit	Upper limit
51.0	0.9	50.1	51.9

Source: TÜİK, 2013

Table IV.3.1.9. Kayseri Province Employment Rates, 2013

Employment rate			
Ratio (%)	Coefficient of variation (%)	Lower limit	Upper limit
46.0	1.0	45.0	46.9

Source: TÜİK, 2013

Table IV.3.1.10. Distribution of the employed according to the labor force

TR72 Kayseri, Sivas, Yozgat	Total	Agric ultur	Indus try	Services	Agricultu ral	Industry	Services
	(Thousand)				(%)		
2011	743	298	192	253	40,1	25,8	34,1
2012	782	326	190	266	41,7	24,3	34,0
2013	762	267	185	311	35,0	24,2	40,8

UNEMPLOYMENT*Table IV.3.1.11. Kayseri Province Unemployment Rates (TUIK:2013)*

Unemployment rate			
Ratio (%)	Coefficient of variation (%)	lower limit	upper limit
9.9	3.0	9.3	10.5

Source: TÜİK, 2013

EDUCATION HEALTH-CULTURAL STRUCTURE*Table IV.3.1.12. Education Indicators,2012*

Kayseri	Number of students per teacher in primary		Primary net schooling rate		Secondary school net schooling		Secondary (High School) net schooling rate	
		Seq.	(%)	Seq.	(%)	Seq.	(%)	Seq.
	19	21	99,82	20	96,28	20	81,72	38

TUIK 2013

Table IV.3.1.13. Literacy Rates

		Total	Analphabet	literate person	Not Known
TR721 Kayseri					
2011	Total	1.117.654	51.887	1.022.553	43.214
	Male	560.516	7.143	532.609	20.764
	Female	557.138	44.744	489.944	22.450
2012	Total	1.136.728	36.981	1.078.281	21.466
	Male	568.592	4.725	554.430	9.437
	Female	568.136	32.256	523.851	12.029
2013	Total	1.155.777	35.727	1.098.291	21.759
	Male	577.559	4.529	563.394	9.636
	Female	578.218	31.198	534.897	12.123

TUIK 2013

Table IV.3.1.14. Health Indicators, 2012

TR721 Kayseri	Number of hospital beds per hundred thousand people		Total number of doctors			Number of Nurses		
	Number	seq	Number	(%)	seq	Number	(%)	seq
	265	-	129 772	100,00	-	134 906	100,00	-
	316	15	2 322	1,7	12	2 699	2,00	11

TUIK 2013

Table IV.3.1.15. Number of hospitals and beds*2013

	Total institution	Total bed	Ministry of Health institution	Ministry of Health, Bed	university institution	Uni.bed Private	institution	custom bed	Other public institution	other public bed
TR721 Kayseri										
2008	26	2 861	13	1 255	1	1 114	12	492	-	-
2009	27	3 032	13	1 308	1	1 114	13	610	-	-
2010	29	3 414	15	1 887	1	954	13	573	-	-
2011	28	3 919	12	1 881	1	1 216	15	822	-	-
2012	31	4 027	12	1 720	1	1 216	17	991	1	100

Table IV.3.1.16. Number of health personnel

	specialist physician	General practitioner	assistant physician	Total physician	Dentist	Pharmacist	health officer	Nurse	delivery nurse
TR721 Kayseri									
2008	853	575	422	1.850	302	392	2.292	1.891	862
2009	971	592	513	2.076	323	394	1.978	2.016	891
2010	1.031	586	485	2.102	324	410	2.522	2.146	911
2011	1.087	656	491	2.234	292	414	2.827	2.513	979
2012	1.132	649	541	2.322	294	423	2.954	2.699	993

Table IV.3.1.17. Number of Public Library, Book and Benefit

TR721 Kayseri	Number of libraries	Number of books	Number of benefits	Number of borrowed materials
2008	23	283.125	195.493	56.427
2009	23	288.799	218.184	66.820
2010	23	292.196	250.978	75.758
2011	21	300.603	230.622	65.644
2012	21	293.616	190.374	50.859

Table IV.3.1.18. Number of movie theaters, performances and spectators

TR721 Kayseri	Number of movie theaters	Number of seats	Number of shows	number of audience
2008	18	2.258	478	479.583
2009	18	2.251	348	467.607
2010	18	2.254	319	451.647
2011	22	2.754	540	660.801
2012	27	3.783	567	614.325

Table IV.3.1.19. Theatre hall, the number of performances and spectators

TR721 Kayseri	Number of theaters	Number of seats	Number of shows	number of audience
2007/'08	-	-	-	-
2008/'09	1	544	13	7.000
2009/'10	7	2.526	53	14.678
2010/'11	8	3.081	164	70.588
2011/'12	6	2.981	95	45.398

IV.3.2. Population (urban and rural population in the region, population movements, migrations, population growth rates, average household population, other information),

Pursuant to the Turkish Statistical Law No. 5429 enacted on 18 November 2005 and the Population Services Law No. 5490 enacted on 25 April 2006, it has been carried out on Address Based Population Registration System Population Census Results. According to the Address Based Population Registration System, the population of the settlements changes daily. According to the updated situation as of 2016, The population of Kayseri is 1,358,980 people. The total population of Yahyalı District is 36,077 people.

While the population living in the villages was higher than the population living in the cities until 1985, the city population became more than the village population after 1985 and this rate reached 69.1% in 2000 (DIE, 26-28). Kayseri is a city that receives a significant amount of immigration from surrounding provinces such as Sivas, Yozgat and Nevşehir, as well as its own districts and villages.

Table IV.3.2.1. Kayseri Province Population Information in 2015

DISTRICTS	POPULATION (PERSON)
Akkışla	6.325
Bünyan	25.950
Develi	64.422
Felahiye	5.769
Hacılar	12.482
İncesu	25.614
Kocasinan	393.300
Melikgazi	554.549
Özvatan	3.865
Pınarbaşı	23.658
Sarıoğlan	13.936
Sarız	9.558

Talas	14.4803
Tomarza	22.818
Yahyalı	36.077
Yeşilhisar	15.854

Source: www.tuik.gov.tr

Table IV.3.2.2. Population of provincial and district centers and towns and villages

Years	Total	Provincial and District Centers	Towns and Villages	Proportion of population of provincial and district centers, towns and villages in total population (%)	
				Provincial and District Centers	Towns and Villages
2011	1 255 349	1 090 530	164 819	86,9	13,1
2012	1 274 968	1 116 393	158 575	87,5	12,5
2013	1 295 355	1 295 355	-	100,0	0,0

Source: TÜİK With Selected Indicators Kayseri, 2013

Table IV.3.2.3. Yahyalı District, population by age group and gender, 2013

Age group	Total	Male	Female
0-4	2.902	1.532	1.370
05-09	3.056	1.575	1.481
10-14	3.436	1.778	1.658
15-19	3.652	1.890	1.762
20-24	2.792	1.451	1.341
25-29	2.552	1.428	1.124
30-34	2.364	1.230	1.134
35-39	2.240	1.115	1.125
40-44	2.318	1.179	1.139
45-49	2.177	1.147	1.030
50-54	2.169	1.079	1.090
55-59	1.780	840	940
60-64	1.503	725	778
65-69	1.269	582	687
70-74	1.013	438	575
75-79	655	245	410
80-84	640	291	349
85-89	203	61	142
90+	55	12	43
total	36.776	18.598	18.178

Table IV.3.2.4. Kayseri Province Population Growth Rate,2013

Population 2013			The ratio of the population of the city and district centers to the total population 2013		Population density 2013		Annual population growth rate 2012-2013	
Person	(%)	Seq.	(%)	Seq.	(Person /km ²)	Seq.	(%)	Seq.
1. 295. 355	1,7	15	100,0	1	76	32	15,9	23

Source: TÜİK with Selected Indicators Kayseri, 2013

Table IV.3.2.5. Household Size by District

District	Average household size	District Ranking
TR721 Kayseri	3,70	-
Akkışla	3,18	12
Bünyan	3,73	5
Develi	3,59	9
Felahiye	3,17	13
Hacılar	3,75	4
İncesu	3,64	7
Kocasinan	3,71	6
Melikgazi	3,79	2
Özvatan	3,00	16
Pınarbaşı	3,57	10
Sarıoğlan	3,51	11
Sarız	3,14	14
Talas	3,59	8
Tomarza	3,91	1
Yahyalı	3,76	3
Yeşilhisar	3,10	15

Kaynak: TÜİK with Selected Indicators Kayseri, 2013

Table IV.3.2.6. Population and migration indicators, Kayseri 2013

Total age dependency ratio		sex ratio		Literacy rate (+6 years old)		Net Migration Rate (2012-2013)	
(%)	Seq.	(%)	Seq.	(%)	Seq.	(%)	Seq.
49,9	36	100,7	36	96,8	24	2,2	30

IV.3.3. Urban and Rural Land Usage in the Project Area and Its Surroundings (Distribution of settlement areas, current and planned usage areas, in this context, industrial zones, residences, tourism areas, etc.)

The distances of Kayseri districts from the center; Akkışla is 80 km, Bünyan is 42 km, Develi is 46 km, Felahiye is 52 km, İncesu is 35 km, Özvatan is 69 km, Pınarbaşı is 90 km, Sarioğlan is 62 km, Sarız is 133 km, Talas is 12 km, Tomarza is 53 km, Yeşilhisar is 67 km and Yahyalı is 81 km.

Kayseri, which has a history of 4000 years, is a city that has hosted many civilizations and cultures, starting with the Hittites, and has a social and cultural background. Kayseri, one of the most important centers of the industrialization move of the Republican era Turkey, represents a society that embraces the cultural structure formed by the modern industrial society with its cultural heritage dating back to ancient times.

Kayseri, which has an important place in the Turkish economy, has a remarkable feature in terms of its socio-economic and cultural structure. Kayseri, which has the capacity to trade at an international level economically, is one of the provinces of Turkey that is most loyal to its traditions. Kayseri is the center of attraction of the region where it is located.

Yahyalı District has been established in the south of Kayseri Province. Yahyalı District is neighbor to Develi in the North, Feke District of Adana in its Southeast, Çamardı District of Niğde and Yeşilhisar District of Kayseri its the Southwest and South. Although the continental climate prevails in the district, the Mediterranean climate prevails especially in the forested region with low altitude in the south. The district has an average temperature of 20 degrees in summers and 18 degrees in winters. The average annual maximum precipitation is 500 mm. There are plenty of apple orchards in the plain area. Although the southern parts of the district are mountainous, there are 44,709 hectares of forest area, of which 11674 hectares are productive and 33,034 hectares degraded, in the southeast, which is close to the Adana borders. The amount of land qualified for pasture is 558.4 hectares.¹

The Zamantı River, which flows in Yahyalı district, has been one of the areas where rafting sports are practiced since the past years. However, the decrease in water flow after HEPP (Hydroelectric Power Plants) and dam constructions led to the gradual disappearance of rafting activity in the region. There are Kapuzbaşı Derebağ and Yeşilköy waterfalls for nature tourism in the district. Gökoluk and Suna plateaus in Yahyalı district, the entrance of Aksu Canyon, Soğukpınar, Kapuzbaşı Waterfalls and Patienthocanın Plateau are suitable areas for nature walks and camping tourism.

The district is one of the rare districts of our country in terms of natural resources. It rich in iron ore, gold mixed lead, silver mixed zinc and chromium. The current annual production amount is around 2-2.5 million tons. It is known that the district has 20 million

¹ Kayseri Cultural Inventory, Governorship of Kayseri, Directorate of Culture and Tourism

tons of iron, 2 million tons of zinc and zinc mixed lead reserves, as well as rich chrome deposits which the reserve amount has not been determined yet. Carpet weaving continues as the oldest activity in the district. In addition, Transportation related to apple farming, animal husbandry and mining constitute the main economic activities. Mine transportation has developed as the locomotive sector.

The buildings in the district center are reinforced concrete structures. Stone and adobe structures are almost nonexistent. Most of the constructions consist of two-storey buildings. Contrary to the district center, the settlement in the villages consists of stone and adobe buildings. Since the region is forested, the houses of the villagers living in the forested areas are in wooden construction style.

The closest settlement area to the project area is Çamlıca Village, located approximately 3 km away. The project area consists of forest and pasture areas, and there are pastures used for grazing by the surrounding villages. The project area is located in an area with rural settlements; There is no urban settlement or industrial use. In the opinion of the zoning status given by the Kayseri Metropolitan Municipality, We have been informed that there are no 1/5000 and 1/1000 zoning plans for the region. (See Annex 13)

IV.3.4. Other Features.

There are no other features that need to be explained.

PART V: IMPACTS OF THE PROJECT ON THE AREA DEFINED IN SECTION IV AND MEASURES TO BE TAKEN

(In this section, the effects of the project on the physical and biological environment are defined. Legal, administrative and technical measures to be taken to prevent, minimize and improve these effects are explained separately and in detail for V.1 and V.2.)

V.1. Preparation of the Land, Activities in Construction and Installation Phase, Effects on the Physical and Biological Environment and Measures to be Taken

V.1.1. Where and how much excavation and vegetative soil shall be formed within the scope of the works to be done for the preparation of the land, excavated and vegetative soil amounts, materials to be used, where excavation residue soil, stone, sand, etc. and vegetative soil shall be transported (shown in the 1/25.000 scale site plan), where they shall be stored, the volume of the area (shown separately on the 1/1.000 scale current map) and for what purposes they shall be used, the excavation material arrangement and restoration plan and the characteristics of the temporary storage area,

Excavation to occur in the turbine foundation excavation, turbine platforms excavation and switchyard excavations in the project area, as well as the excavation soil that will be revealed during the vegetative soil stripping works in the excavation of the units; shall be temporarily stored in selected excavation and vegetative soil storage areas. Temporary topographic soil stock-excavation areas selected within the scope of the project are given in the Topographic Map and Layout Plan presented in ANNEX:3.

Excavated Soil to be Revealed During the Construction of the Turbines

A- Vegetable Soil on the Area where the Turbine Foundations shall be Established

There is approximately 30 cm thick vegetable soil on the 283.385 m² area where the turbine foundations shall be built. A total of 25 turbines shall be built in the project;

25 (turbine) x 283.385 m² (area) x 0.30 m (depth) = 2.125.5 m³ of topsoil excavation shall be carried out.

Average density of the excavated material = 1.6 tons/m³

The excavated material = 2.125.5 m³ x 1.6 tons/m³ = approximately 3.400 tons.

B- Excavation of Turbine Foundations

Considering that The amount of excavation soil expected to be formed during the excavation of the turbine foundations in the project; the foundation excavation shall be carried out for each turbine with an area of 283.385 m² and a depth of approximately 2.2 m, it has been calculated as follows ;

The amount of excavation for a turbine area is: 283.385 m² x 2.2 m = 623.4 m³.

Number of Turbines x Excavation Amount = Total Excavation Amount

Soil density: 2 tons/m³

It has been calculated as $25 \times 623.4 = 15.585 \text{ m}^3$ (31.170 tons).

C- Vegetative Soil Excavation in the Stage of Arrangement of Turbine Platforms

In the project, platforms of 1,250 m² shall be built in order to easily make turbine constructions, beside turbines. Topsoil stripping shall be done on these platforms.

25 (turbine) \times $1,250 \text{ m}^2$ (area) \times $0,30 \text{ m}$ (depth) = 9.375 m^3 of topsoil excavation shall be done.

Average density of the excavated material = 1.6 tons/m^3

The excavated material = $9.375 \text{ m}^3 \times 1.6 \text{ tons/m}^3$ = approximately 15.000 tons.

➤ Amount of Excavation to be Revealed During Construction of Switchyard, Administrative Building

A- Vegetative Soil Excavation on the Area where the Foundations of the Switchyard, Administrative Building-Social Facilities (Dormitory, Dining Hall, Washbasin and Showers etc.) are excavated

Within the scope of the project, arrangement works shall be carried out in an area where the administrative building, switchyard and control room are located in the $31,044 \text{ m}^2$ switchyard.

Assuming that there shall be a 30 cm deep vegetative soil cover on the area where the Switchyard, Administrative Building and Social Facilities will be built;

$31.044 \text{ m}^2 \times 0.30 \text{ m}$ (depth) = $9.313.2 \text{ m}^3$ of topsoil excavation shall be carried out.

Average density of topsoil to be excavated = 1.6 ton/m^3 .

The amount of vegetal soil to be excavated = $9.313.2 \text{ m}^3 \times 1.6 \text{ tons/m}^3$ = 14.901 tons.

B- Excavation of Foundations of Switchyard, Administrative Building-Social Facilities (Dormitory, Dining Hall, Washbasin and Showers etc.)

Within the scope of the project, arrangement works shall be carried out in an area where the administrative building, switchyard and control room are located in the $31,044 \text{ m}^2$ switchyard.

Considering that an average of 2 meters deep foundation excavation shall be carried out for the switchyard, administrative building and social facilities;

The amount of excavation that occur during the excavation of the foundation is $31,044 \text{ m}^2 \times 2 \text{ m} = 62,088 \text{ m}^3$.

Soil density: 2 tons/m³

It has been calculated as 62,088 m³ x 2 tons/m³ = 124.176 tons

- **The amount of vegetative soil to be formed during the opening and arrangement of intra-site access roads:**

It is planned that the average width of the roads to be constructed within the project site will be 10 meters and the total length shall be 48,000 meters. The area usage during the construction of the roads is 10 m x 48,000 m = 480,000 m².

Accordingly, the amount of vegetative soil to be stripped during the opening of the roads:

480,000 m² x 0.3 m (Vegetable Soil Depth) = 144,000 m³

Soil density: 1.6 tons/m³

75.600 m³ x 1.6 tons/m³ = 230.400 tons

Tablo V.1.1.1. Excavations to be Occurred During the Construction Phase

Waste Code	Explanation	Quantity (Approximate values)	Method of Disposal
<i>20 02 Garden and Park Wastes (Including Cemetery Wastes)</i>			
20 02 02	Soil and Stones	419.047	The vegetable soil that will emerge during the vegetative soil stripping operations shall be temporarily stored in the designated vegetative soil stock areas. It shall be used in on-site landscaping works after the completion of the construction works. Excavation material temporarily stored during the construction of the project shall be used as a filling material for covering the turbine foundations, arranging the site and roads to be built in the field.

The vegetative soil to be stripped from the top during the unit excavations during the construction phase shall be stored separately in 7 vegetative soil stock areas with an area of 10,000 m² (total 70,000 m²) created within the activity area, and shall be used in landscaping after the completion of the construction processes.

Figure V.1.3.1. Traffic Network Map of the Region (6th Regional Directorate of Highways)

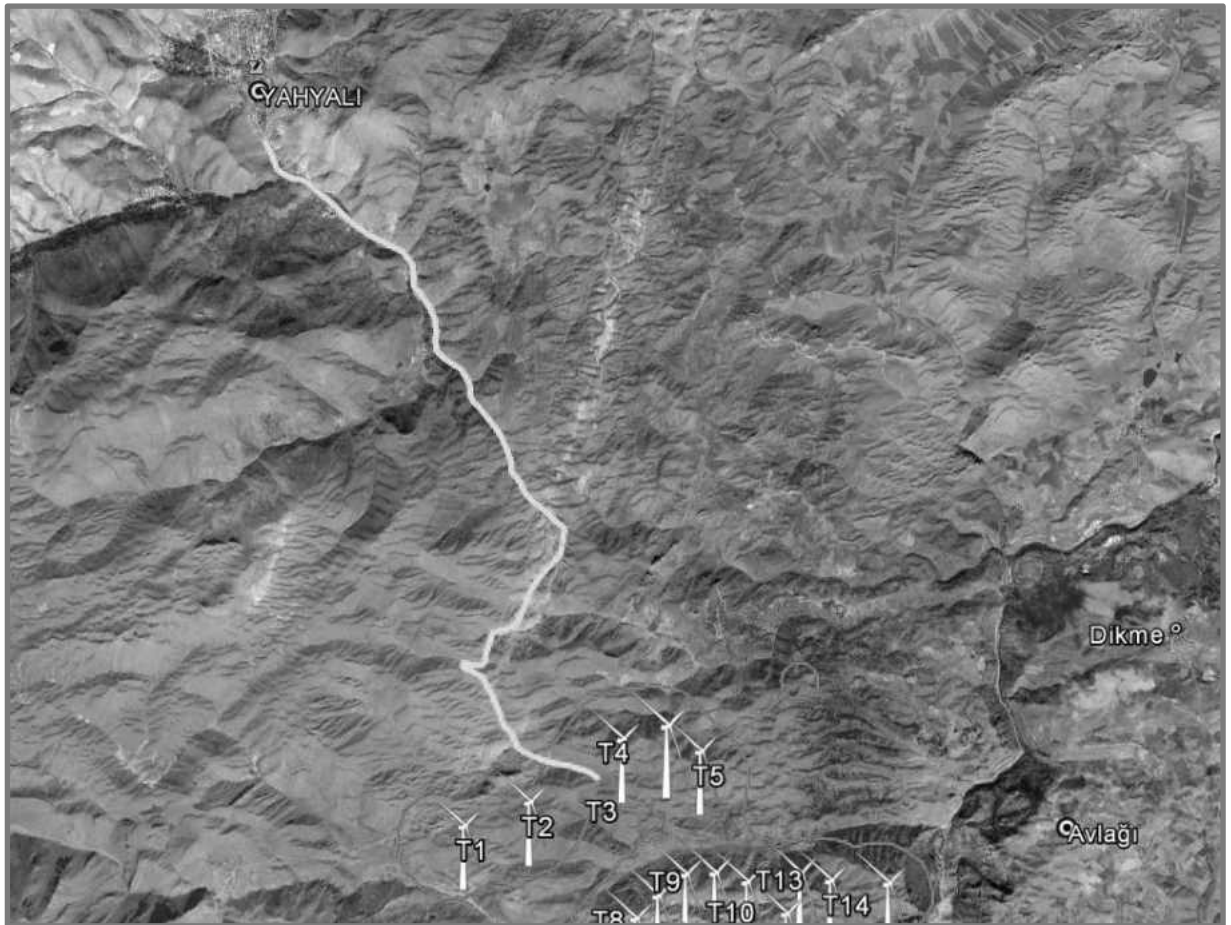


Figure V.1.3.2. Power Plant Area Access Road



Figure V.1.3.3. View from the entrance of Erciyes Wind Power Plant Area



Figure V.1.4. Unimproved road view of Erciyes Wind Power Plant area

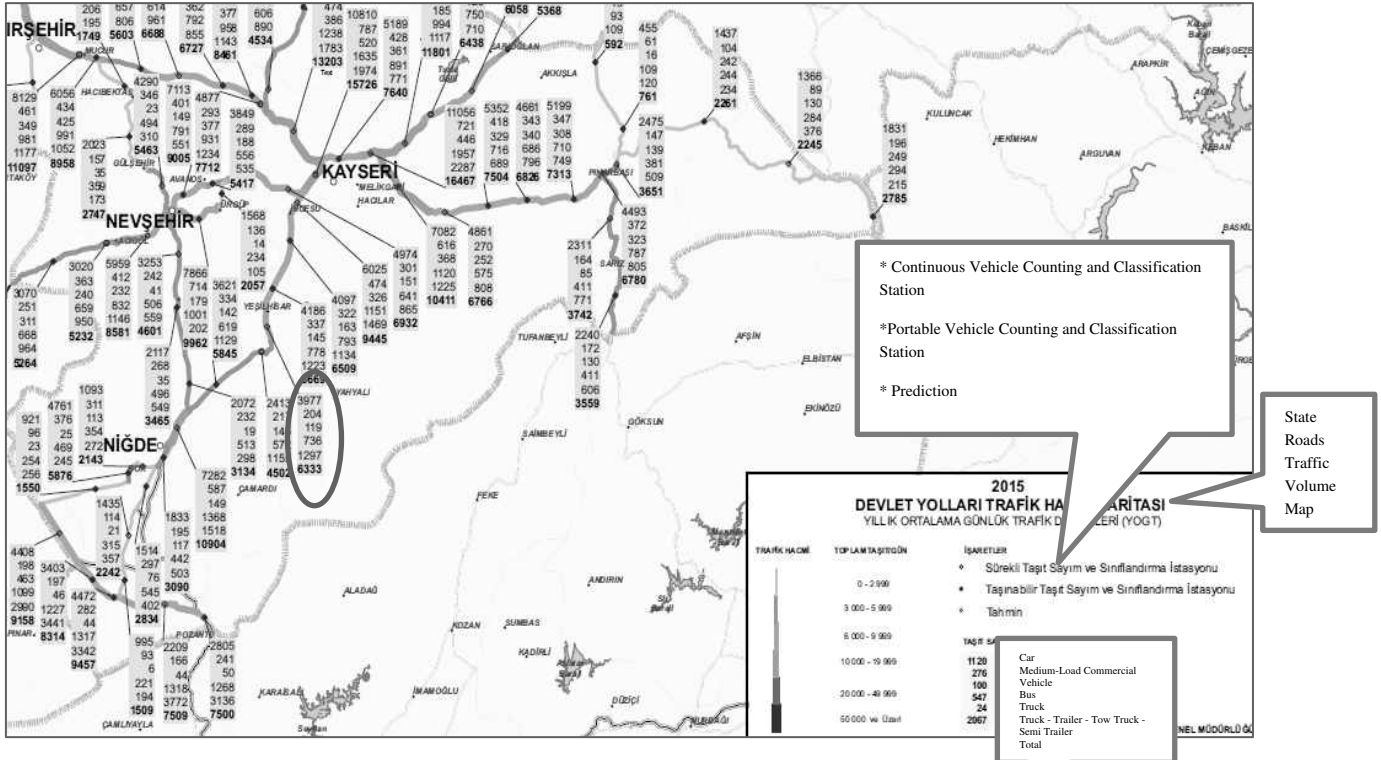


Figure V.1.3.5. Traffic volume map of the region (7th Regional Directorate of Highways)

In the project, there is a main transportation line in the power plant area, and it is planned to open connection roads between the turbines, with a total length of 48 km and a width of 10 m, in order to provide the transportation network of the turbines. Power plant site roads shall be constructed in the form of arrangement of existing pathways. The roads to be built have been prepared in the Layout Plan given in ANNEX:3

In case the village roads to be used over Çamlıdere Village are damaged during the construction process of additional turbines within the scope of the project, the damage shall be compensated. Dust emission expected to occur during the construction phase of the project is given in Section V.1.6.

The following measures shall be taken in terms of Traffic Safety:

To prevent people and vehicles from moving outside of designated construction areas and entry routes, signposts should be erected along the boundaries of work areas, road entrances or pathways and protected until the work is complete,

"Construction Site Entry Prohibited" signs will be erected where necessary,

Speeds, tonnages, adequacy of the vehicles used in the transport of concrete shall be selected in accordance with the decisions of the Turkish Republic Highways and Traffic Commission and TS 11222 standards,

Against the possible dangers of the materials falling behind the vehicles in traffic, No material shall be transported without protecting the loads with tarpaulin or a similar material,

While the concrete and concrete materials (aggregate, sand) are being transported, It shall not be spilled on the transportation roads by any means of transportation, and the trucks shall not be overloaded in a dangerous way.

V.1.4. Where, how much and how the material to be used within the scope of the project shall be procured, (Indicating where to procure the aggregate for the concrete plant in case of concrete usage etc.), If any, information about material procurement, manufacturing maps, Marking the quarry and facility on the 1/25.000 scale topographic map, specifying the distances to the settlements and the shipping route, ownership status of the material quarries, if any,

Within the scope of the project, concrete shall be used in the foundation construction of the turbines. Considering that an average of 500 m³ of concrete is consumed for the turbine foundation, the amount of concrete to be consumed for 25 turbines x 500 m³ = 12.500 m³ turbines has been calculated. The concrete planned to be used shall be supplied from licensed ready-mixed concrete facilities operating in the region. In this context, it is not planned to open a material quarry or facility.

V.1.5. Ground safety, actions to be taken to prevent landslides (taking into account the landslide risk), measures to be taken,

Geological - geotechnical survey studies, ground survey studies (drilling, geophysical surveys, map studies) for the turbine points planned to be established in the activity area, the areas where switchgear and administrative buildings will be established and the roads reaching the area (including turbine roads) shall be carried out following the receipt of the EIA Positive File. The report, which is prepared in accordance with the legislation of the Ministry of Environment and Urbanization, shall be submitted to the approval of the relevant institutions.

V.1.6. Dust spreading processes such as crushing, grinding, transportation and storage, blasting during construction,

Dust formation may occur during the construction phase of the Erciyes Wind Power Plant, during the arrangement of the platform in order for the construction machines to move easily within the area where the turbines are installed, in turbine foundation excavation, at the stage of easy mobilization and during the operation phase, during the construction of the roads between the turbines, in order to easily carry out the maintenance and repair works to be carried out on the turbines and energy transmission organs.

In the calculation of dust emissions, Table 12.6: Emission Factors to be Used in Dust Emission Mass Flow Calculations, and Annex-12; the Regulation on Control of Industrial Air Pollution, which entered into force by being published in the Official Gazette dated 03.07.2009 and numbered 27277 (Amendment: OG-20/12/2014-29211), are used.

Table V.1.6.1. Dust Emission Factors and Emission Flow Rates

Dust Factors	Emission Values (kg/ton)	
	Uncontrolled	controlled
Stripping	0,025	0,0125
Loading	0,010	0,005
Transport (round trip total distance)	0,7	0,35
Unloading	0,010	0,005
Storage	5,8	2,9

1. DUST EMISSIONS DURING THE CONSTRUCTION OF WIND TURBINES

1.a. Amount of Dust to be generated During Vegetative Soil Excavation on the Area where Turbine Foundations are Established;

There is approximately 30 cm thick vegetable soil on the 283.385 m² area where the turbine foundations will be built. A total of 25 turbines shall be built in the project;

25 (turbine) x 283.385 m² (area) x 0.30 m (depth) = 2.125.5 m³ of topsoil excavation shall be done.

Average density of the excavated material = 1.6 tons/m³

The excavated material = 2.125.5 m³ x 1.6 tons/m³ = approximately 3.400 tons.

Topsoil excavation shall be taken in a single 8-hour shift per day, covering 60 days of the construction period.

Total Excavation Amount = 3.400 tons

Daily Excavation Amount = 56.6 tons

Hourly Excavation Amount = 7.08 tons

The 3,400 tons of vegetable soil that come out during the vegetative soil stripping operations shall be temporarily stored in 7 vegetative soil stock areas selected in the project area, and shall be used in post-construction site arrangement processes.

a) The amount of dust to be generated during the excavation of the vegetative soil:

Uncontrolled Dust Emission = 0.025 kg/ton x 7.08 tons/hour= 0.177 kg/hour

Controlled Dust Emission = 0.0125 kg/ton x 7.08 tons/hour= 0.0885 kg/hour

b) The amount of dust to occur during the loading of the vegetative soil:

Uncontrolled Dust Emission = 0.01 kg/ton x 7.08 tons/hour= 0.0708 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 7.08 tons/hour= 0.0354 kg/hour

c) The amount of dust to occur during the transportation of the vegetative soil:

An average of 3 km long road shall be used for round trips in the process of transporting the vegetative soil taken by scraping off the area where the turbine foundations are established, to the vegetal soil temporary storage areas. Since a truck has a carrying capacity of 20 tons, a total of 3 trips shall be made per day for 56.6 tons of material. Accordingly, the amount of dust to be caused by transportation;

Uncontrolled Dust Emission = $0.7 \text{ kg/km-trip} \times 3 \text{ trips/8 hours} \times 3 \text{ km} = 0.7875 \text{ kg/hour}$

Controlled Dust Emission = $0.35 \text{ kg/km-trip} \times 3 \text{ trips/8 hours} \times 3 \text{ km} = 0.39375 \text{ kg/hour}$

d) The amount of dust that may occur during the discharge of the vegetative soil:

Uncontrolled Dust Emission = $0.01 \text{ kg/ton} \times 7.08 \text{ tons/hour} = 0.0708 \text{ kg/hour}$

Controlled Dust Emission = $0.005 \text{ kg/ton} \times 7.08 \text{ tons/hour} = 0.0354 \text{ kg/hour}$

e) The amount of dust that may occur during the storage of vegetative soil:

The area considered for the storage of the vegetative soil stripped from the area where the turbine foundations will be built is approximately $7 \times 10.000 \text{ m}^2 = 70.000 \text{ m}^2$ (7 hectares) and shall be stored during the construction processes. Later, It shall be ensured that the soil can adapt to the area it is in and maintain its vitality with the live part of it on top, by laying on area arrangement and the edges of the in-site roads to be opened and around the turbine. The amount of dust to be formed at this stage;

Uncontrolled Dust Emission = $5.8 \text{ kg dust/ha day} \times 7 \text{ hectares} / 24 \text{ hours} = 1.69 \text{ kg/hour}$

Controlled Dust Emission = $2.9 \text{ kg dust/ha day} \times 7 \text{ hectares} / 24 \text{ hours} = 0.845 \text{ kg/hour}$

Uncontrolled total amount of dust that may arise from topsoil excavation in the areas where turbine foundations are established: : 2.7961 kg/hour of dust shall be generated.

Controlled total amount of dust that may arise from the topsoil excavation of the areas where the turbine foundations are established: 1,39805 kg/hour dust shall be generated.

1.b. Amount of Dust to be generated During the Excavation of Turbine Foundations;

The amount of excavation soil expected to be formed during the excavation of the turbine foundations in the project; Considering that the foundation excavation will be carried out for each turbine with an area of 283.385 m² and a depth of approximately 2.2 m;

The amount of excavation for a turbine area is: $283.385 \text{ m}^2 \times 2.2 \text{ m} = 623.4 \text{ m}^3$.

Number of Turbines x Excavation Amount = Total Excavation Amount

Soil density: 2 tons/m³

25 x 623.4 = 15.585 m³ (31.170 tons)

During the excavation of the turbine foundations in the project, 31,170 tons of excavation soil shall be formed. The total construction period of the project shall take 38 months. Excavation operations shall be carried out to cover 120 days of the total construction period. and shall be worked in a single 8-hour shift per day.

Total Excavation Amount = 31,170 tons

Daily Excavation Amount = 259.75 tons

Hourly Excavation Amount = 32.5 tons

Excavation material shall be stored in the excavation storage areas within the scope of the project and shall be used when necessary. Considering that trucks with a carrying capacity of 20 tons are used during transportation, approximately 13 trips shall be made in one day (256.75 tons/day: 20 tons/trip);

a) The amount of dust to be generated during the removal of the excavation:

Uncontrolled Dust Emission = 0.025 kg/ton x 32.5 tons/hour= 0.8125 kg/hour

Controlled Dust Emission = 0.0125 kg/ton x 32.5 tons/hour= 0.40625 kg/hour

b) The amount of dust to be generated during the loading of the excavation:

Uncontrolled Dust Emission = 0.01 kg/ton x 32.5 tons/hour= 0.325 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 32.5 tons/hour= 0.1625 kg/hour

c) The amount of dust that will be generated during the transportation of the excavation:

In the process of transporting the excavation material to the nearest temporary excavation storage site, an average 3 km long road shall be used round-trip. Since a truck has a carrying capacity of 20 tons, a total of 13 trips shall be made per day. Accordingly, the amount of dust to be caused by transportation;

Uncontrolled Dust Emission = 0.7 kg/km-trip x 13 trips/8 hours x 3 km= 3.4125 kg/hour

Controlled Dust Emission = 0.35 kg/km-trip x 13 trips/8 hours x 3 km= 1.70625 kg/hour

d) The amount of dust that may occur during the discharge of the excavation:

Kontrolsüz Toz Emisyonu = 0,01 kg/ton x 32,5 ton/saat= **0,325** kg/saat

Kontrollü Toz Emisyonu = 0,005 kg/ton x 32,5 ton/saat= **0,1625** kg/saat

e) The amount of dust that may occur during the storage of the excavation:

Uncontrolled Dust Emission = $5.8 \text{ kg dust/ha day} \times 2.1 \text{ hectares} / 24 \text{ hours} = 0.575 \text{ kg/hour}$

Controlled Dust Emission = $2.9 \text{ kg dust/ha day} \times 2.1 \text{ hectares} / 24 \text{ hours} = 0.2875 \text{ kg/hour}$

Uncontrolled total amount of dust that may arise from the excavation of turbine foundations: 5.45 kg/hour of dust shall be generated.

Controlled total amount of dust that may arise from the excavation of turbine foundations: $2,725 \text{ kg/hour}$ of dust shall be generated.

1.c. The Amount of Dust to Be Occurred During the Arrangement of Turbine Platforms;

In the project, besides the turbines, platforms of $1,250 \text{ m}^2$ shall be built in order to easily make turbine constructions. Topsoil stripping shall be carried out on these platforms.

$25 \text{ (turbine)} \times 1,250 \text{ m}^2 \text{ (area)} \times 0,30 \text{ m (depth)} = 9.375 \text{ m}^3$ of topsoil excavation shall be carried out.

Average density of the excavated material = 1.6 tons/m^3

The excavated material = $9.375 \text{ m}^3 \times 1.6 \text{ tons/m}^3 =$ approximately 15.000 tons .
Topsoil excavation shall be taken to cover 180 days of the construction period and in a single 8-hour shift per day.

Total Excavation Amount = $15,000 \text{ tons}$

Daily Excavation Amount = 83.3 tons

Hourly Excavation Amount = 10.4 tons

a) The amount of dust to be generated during the excavation of the turbine platforms vegetative soil:

Uncontrolled Dust Emission = $0.025 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.26 \text{ kg/hour}$

Controlled Dust Emission = $0.0125 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.13 \text{ kg/hour}$

b) The amount of dust to be generated during the loading of the turbine platforms vegetative soil:

Uncontrolled Dust Emission = $0.01 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.104 \text{ kg/hour}$

Controlled Dust Emission = $0.005 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.052 \text{ kg/hour}$

c) The amount of dust to be generated during the transportation of the turbine platforms vegetative soil:

An average of 3 km long road shall be used for round trips in the process of transporting the vegetative soil, which is stripped from the area where the turbine platforms to be arranged, to the vegetal soil temporary storage area, Since a truck has a carrying

capacity of 20 tons, there shall be a total of 5 trips per day for 83.3 tons of material.

Accordingly, the amount of dust to be caused by transportation;

Uncontrolled Dust Emission = $0.7 \text{ kg/km-trip} \times 5 \text{ trips/8 hours} \times 3 \text{ km} = 1.3125$
kg/hour

Controlled Dust Emission = $0.35 \text{ kg/km-trip} \times 5 \text{ trips/8 hours} \times 3 \text{ km} = 0.65625$
kg/hour

d) The amount of dust that may occur during the discharge of the turbine platforms vegetative soil:

Uncontrolled Dust Emission = $0.01 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.104 \text{ kg/hour}$

Controlled Dust Emission = $0.005 \text{ kg/ton} \times 10.4 \text{ tons/hour} = 0.052 \text{ kg/hour}$

e) The amount of dust that may occur during the storage of the turbine platforms vegetative soil:

The area considered for the storage of vegetative soil is approximately $7 \times 10.000 \text{ m}^2 = 70.000 \text{ m}^2$ (7 hectares) and shall be stored during the construction process. Later, It shall be ensured that the soil can adapt to the area it is in and maintain its vitality with the live part of it on top, by laying on area arrangement and the edges of the in-site roads to be opened and around the turbine. The amount of dust to be formed at this stage;

Uncontrolled Dust Emission = $5.8 \text{ kg dust/ha day} \times 7 \text{ hectares} / 24 \text{ hours} = 1.69$
kg/hour

Controlled Dust Emission = $2.9 \text{ kg dust/ha day} \times 7 \text{ hectares} / 24 \text{ hours} = 0.845 \text{ kg/hour}$

During the arrangement of the turbine platform areas, the uncontrolled total amount of dust that may arise from the topsoil excavation: 3.4705 kg/hour of dust shall be generated.

During the arrangement of the turbine platform areas, the controlled total amount of dust that may arise from the topsoil excavation: $1,73525 \text{ kg/hour}$ of dust shall be generated.

2. DUST EMISSION AT THE CONSTRUCTION OF SWITCH AREA - ADMINISTRATIVE-SOCIAL UNITS

2.a- The Amount of Dust to be formed During Vegetative Soil Excavation on the Area where the Foundations of the Administrative Building to be excavated at the Switchyard

Within the scope of the project, arrangement works shall be carried out in an area where the administrative building, switchyard and control room are located in the $31,044 \text{ m}^2$ switchyard.

Assuming that there shall be a 30 cm deep vegetative soil cover on the area where the Switchyard, Administrative Building and Social Facilities are built;

$31.044 \text{ m}^2 \times 0.30 \text{ m (depth)} = 9.313.2 \text{ m}^3$ of topsoil excavation shall be carried out.

Average density of topsoil to be excavated = 1.6 ton/m³

The amount of vegetal soil to be excavated = 9.313.2 m³ x 1.6 tons/m³ = 14.901 tons.

The completion time of the facility shall take 38 months. The topsoil excavation on the area where the foundations of the Switchyard, Administrative Building -Social Facilities (Dormitory, Dining Hall, Washbasin and Showers etc.) are excavated is to cover 45 days of the total construction period. It shall be taken in a single 8-hour shift per day.

Total Excavation Amount = 14,901 tons

Daily Excavation Amount = 331.13 tons

Hourly Excavation Amount = 41.39 tons

Temporary storage of 14,901 tons of vegetable soil to be generated during the vegetative soil stripping operations to be carried out at the switchyard shall be carried out on the Vegetative Soil Storage Area-4, which is the closest storage area to the switchyard and has a size of 10,000 m² (1 hectare). The topsoil shall be stored on this site separately from other excavation materials during the construction process.

a) The amount of dust to be generated during the stripping of the vegetative soil:

Uncontrolled Dust Emission = 0.025 kg/ton x 41.39 tons/hour= 1.035 kg/hour

Controlled Dust Emission = 0.0125 kg/ton x 41.39 tons/hour = 0.52 kg/hour

b) The amount of dust to be generated during the loading of the vegetative soil:

Uncontrolled Dust Emission = 0.01 kg/ton x 41.39 tons/hour= 0.414 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 41.39 tons/hour= 0.21 kg/hour

c) The amount of dust to be generated during the transportation of vegetative soil:

An average of 3 km long road shall be used for round trips in the process of transferring the vegetative soil taken by stripping from the area where the Switchyard, Administrative Building-Social Facilities to be built, to the Vegetative Soil Storage Area-4, which is the nearest temporary storage area, Since a truck has a carrying capacity of 20 tons, a total of 17 trips shall be made per day. Accordingly, the amount of dust to be caused by transportation shall be as follows;

Uncontrolled Dust Emission = 0.7 kg/km-trip x 17 trips/8 hours x 3 km= 4.46 kg/hour

Controlled Dust Emission = 0.35 kg/km-trip x 17 trips/8 hours x 3 km= 2.23 kg/hour

d) The amount of dust that may occur during the discharge of the vegetative soil:

Uncontrolled Dust Emission = 0.01 kg/ton x 41.39 tons/hour= 0.414 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 41.39 tons/hour= 0.21 kg/hour

e) The amount of dust that may occur during the storage of vegetative soil:

During the vegetative soil stripping operations to be carried out in the area where the Switchyard, Administrative Building and Social Facilities are built, The temporary storage of 14,901 tons of vegetable soil to be generated shall be carried out in the Vegetative Soil Storage Area-4, which is the closest storage area to the switchyard and has a size of 10,000 m² (1 hectare). The topsoil shall be stored on this site separately from other excavation materials during the construction process.

The amount of dust to be formed at this stage shall be as follows;

Uncontrolled Dust Emission = 5.8 kg dust/ha day x 1 hectare /24 hours/day = 0.2416 kg/hour

Controlled Dust Emission = 2.9 kg dust/ha day x 1 hectare /24 hours/day= 0.1208 kg/hour

Uncontrolled total amount of dust that may arise from the topsoil excavation to be made in the area where the Switchyard, Administrative Building and Social Facilities to be constructed: 6.5646 kg/hour

Controlled total dust amount that may arise from the topsoil excavation to be made in the area where the Switchyard, Administrative Building and Social Facilities are constructed is found as 3.2908 kg/hour.

2.b- Amount of Dust to be emerged During the Excavation of the Foundations of the Switchyard, Administrative Building and Social Facilities (Dormitory, Dining Hall, Washbasin and Showers etc.)

Within the scope of the project, arrangement works shall be carried out in an area where the administrative building, switchyard and control room are located in the 31,044 m² switchyard.

Considering that an average of 2 meters deep foundation excavation shall be made for the switchyard, administrative building and social facilities;

The amount of excavation to occur during the excavation of the foundation is 31,044 m² x 2 m = 62,088 m³.

Soil density: 2 tons/m³

It has been calculated as 62,088 m³ x 2 tons/m³ = 124.176 tons.

The completion time of the facility shall take 38 months. The foundation excavation of the switchyard, administrative building and social facilities shall be taken with a single shift in 8 hours a day, covering 180 days of the total construction period.

Total Excavation Amount = 124.176 tons

Daily Excavation Amount = 690 tons

Hourly Excavation Amount = 86.25 tons

The storage process of the excavation material to be formed from the foundation excavation of the switchyard, administrative building and social facilities shall be carried out on excavation Area-4, which is the closest storage area to the switchyard and has an area of 3,000 m² (0.3 hectares). Considering that trucks with a carrying capacity of 20 tons will be used during transportation, approximately 35 trips shall be made in one day.

a) The amount of dust to be generated during the removal of the excavation:

Uncontrolled Dust Emission = 0.025 kg/ton x 86.25 tons/hour= 2.156 kg/hour

Controlled Dust Emission = 0.0125 kg/ton x 86.25 tons/hour= 1.078 kg/hour

b) The amount of dust to be generated during the loading of the excavation:

Uncontrolled Dust Emission = 0.01 kg/ton x 86.25 tons/hour= 0.863 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 86.25 tons/hour= 0.43 kg/hour

c) The amount of dust to be generated during the transportation of the excavation:

An average of 3 km long road shall be used for round trips in the process of transporting the excavation material, which shall be formed from the foundation excavation of the switchyard, administrative building and social facilities, to the Excavation Area-4. Since a truck has a carrying capacity of 20 tons, a total of 14 trips shall be made per day.

Accordingly, the amount of dust to be caused by transportation shall be as follows;

Uncontrolled Dust Emission = 0.7 kg/km-trip x 35 trips/8 hours x 3 km= 9.19 kg/hour

Controlled Dust Emission = 0.35 kg/km-trip x 35 trips/8 hours x 3 km= 4.59 kg/hour

d) The amount of dust that may occur during the unloading of the excavation:

Uncontrolled Dust Emission = 0.01 kg/ton x 86.25 tons/hour= 0.863 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 86.25 tons/hour= 0.43 kg/hour

e) The amount of dust that may occur during the storage of the excavation:

Excavation material shall be temporarily stored in Excavation Area-4, which is approximately 3,000 m² and was created within the scope of the project and when necessary, it shall be taken from here and used.

The amount of dust to be formed at this stage shall be as follows;

Uncontrolled Dust Emission = $5.8 \text{ kg dust/ha day} \times 0.3 \text{ hectares} / 24 \text{ hours/day} = 0.0725 \text{ kg/hour}$

Controlled Dust Emission = $2.9 \text{ kg dust/ha day} \times 0.3 \text{ hectares} / 24 \text{ hours/day} = 0.03625 \text{ kg/hour}$

Uncontrolled total amount of dust that may arise from the foundation excavation of the switchyard, administrative building and social facilities: 13,145 kg/hour of dust shall be generated.

Controlled total amount of dust that may arise from the foundation excavation of the switchyard, administrative building and social facilities: 6.56 kg/hour of dust shall be generated.

3. DUST EMISSION TO BE GENERATED BY OPENING AND REGULATION OF IN-SITE TRANSPORTATION ROADS

3.a. The Amount of Dust to Be Emerged During the Stripping of the Vegetal Soil During the Opening of the In-Site Access Roads

It is planned that the average width of the roads to be opened within the project site shall be 10 meters and the total length shall be 48,000 meters. The area usage during the construction of the roads is $10 \text{ m} \times 48,000 \text{ m} = 480,000 \text{ m}^2$.

Accordingly, the amount of vegetative soil to be stripped during the opening of the roads shall be as follows:

$$480,000 \text{ m}^2 \times 0.3 \text{ m (Vegetable Soil Depth)} = 144,000 \text{ m}^3$$

$$\text{Soil density: } 1.6 \text{ tons/m}^3$$

$$144,000 \text{ m}^3 \times 1.6 \text{ tons/m}^3 = 230,400 \text{ tons.}$$

230,400 tons of vegetable soil to come out during the vegetative soil stripping operations shall be laid on the sides of the in-site roads to be opened, with the living part on top, so that the soil can adapt to the area it is located and maintain its vitality. For this reason, It was not necessary to calculate the dust emission to occur during the loading, transportation and storage of the vegetative soil in the vegetative soil stripping works to be carried out on the roads within the site.

The completion time of the facility shall take 38 months. Opening and arrangement of in-site access roads shall be carried out to cover 150 days of the total construction period and it shall be worked in a single 8-hour shift per day.

$$\text{Total Excavation Amount} = 230,400 \text{ tons}$$

$$\text{Daily Excavation Amount} = 1,536 \text{ tons}$$

$$\text{Hourly Excavation Amount} = 192 \text{ tons}$$

a) The amount of dust to be occurred during the stripping of the vegetative soil:

$$\text{Uncontrolled Dust Emission} = 0.025 \text{ kg/ton} \times 192 \text{ tons/hour} = 4.8 \text{ kg/hour}$$

Controlled Dust Emission = 0.0125 kg/ton x 192 tons/hour= 2.4 kg/hour

b) The amount of dust to be occurred during the discharge of the vegetative soil:

Uncontrolled Dust Emission = 0.01 kg/ton x 192 tons/hour= 1.92 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 192 tons/hour = 0.96 kg/hour

Uncontrolled total amount of dust that may arise from the topsoil excavation on the area where the in-site access roads are constructed: 6.72 kg/hour

The controlled total amount of dust that may arise from the topsoil excavation on the area where the in-site access roads are constructed is found as 3.36 kg/hour.

3.b- Amount of Dust to Be Occurred During the Improvement of Intra-Site Access Roads

If the excavation material removed during the excavation of the turbine foundations is not sufficient, filling material procured from the market shall be used for the improvement of in-plant roads.

The amount of material required for road improvement;

Density of the material: 2 tons/m³

48,000 m (length) x 10 m (width) x 0.5 m (height) = 240,000 m³
= 240,000 m³ x 2 tons/m³ = 480,000 tons

The amount of material required for road construction in the project is 480,000 tons. The completion period of the facility shall take 38 months, the road construction works shall be carried out to cover 180 days of the total construction period and it shall be worked in a single shift of 8 hours a day.

Total Excavation Amount = 480.000 tons

Daily Excavation Amount = 2,667 tons

Hourly Excavation Amount = 333.4 tons

a) The amount of dust to be occurred during the loading of the material:

Uncontrolled Dust Emission = 0.01 kg/ton x 333.4 tons/hour= 3.334 kg/hour

Controlled Dust Emission = 0.005 kg/ton x 333.4 tons/hour= 1.667 kg/hour

b) The amount of dust to be occurred during the transportation of the material:

During the improvement of the access road, the necessary material shall be loaded on trucks and transported. Due to the fact that the works to be carried out on the road to be opened at this stage shall be progressed step by step on the road line and there are roads to be made for turbine connections, dust calculation of the 750 m (1,500 m round trip) section has been made and included in the total dust formation. 134 trips shall be enough for the

transport of 2667 tons of material per day with a truck with a carrying capacity of 20 tons during the transportation of the material. Accordingly, the amount of dust to be caused by transportation shall be as follows;

Uncontrolled Dust Emission = $0.7 \text{ kg/km-trip} \times 134 \text{ trips/8 hours} \times 1.5 \text{ km} = 17.59 \text{ kg/hour}$

Controlled Dust Emission = $0.35 \text{ kg/km-trip} \times 134 \text{ trips/8 hours} \times 1.5 \text{ km} = 8.79 \text{ kg/hour}$

c) The amount of dust that may occur during the discharge of the material:

Uncontrolled Dust Emission = $0.01 \text{ kg/ton} \times 333.4 \text{ on/hour} = 3.334 \text{ kg/hour}$

Controlled Dust Emission = $0.005 \text{ kg/ton} \times 333.4 \text{ tons/hour} = 1.667 \text{ kg/hour}$

Uncontrolled total amount of dust during the improvement of in-site access roads:
24,258 kg/hour

During the improvement of in-site access roads, the total amount of controlled dust is found as 12,124 kg/hour.

Table V.1.6.2. Cumulative Total Dust Emissions During the Construction of the Plant

Stage	Parameter	Total Mass Flow	
		Uncontrolled (kg/hr)	Controlled (kg/hr)
1. Construction of Wind Turbines	a. The Vegetative Soil on the Area where the Turbine Foundations to be Excavated	2,7961	1,39805
	b. Excavation of Turbine Foundations	5,45	2,725
	c. Arrangement of Turbine Platforms	3,4705	1,73525
2. Construction of Switchyard-Administrative-Social Units	a. Stripping of Vegetal Soil During Construction of Switchyard – Administrative-Social Units	6,5646	3,2908
	b. Foundation Excavation for the Construction of the Switchyard – Administrative-Social Units	13,145	6,56425
3. Opening and Arranging In-Site Access Roads	a. Stripping of Vegetal Soil During the Opening of In-Site Access Roads	6,72	3,36
	b. Improvement of In-Site Access Roads	24,258	12,124
TOTAL		62,4037	31,197

During the construction works to be carried out in the wind power plant area, road arrangement, turbine construction and switchyard construction shall not be done simultaneously, but shall be carried out in successive periods. In addition, For cumulative evaluation and worst case scenario consideration, The cumulative sum of dust emissions to be occurred at all stages has been taken into consideration. In uncontrolled conditions, which are made by considering the worst conditions and assuming that no measures are taken, The cumulative total of the emission flow rate is calculated as 62.4037 kg/hour and The cumulative total of the emission flow rate under controlled conditions, when the measures specified in the relevant regulations are taken, is calculated as 31.197 kg/hour. As a result of the calculations, during the activities to be carried out, dust emissions likely to occur in the field under uncontrolled and controlled conditions, since it is above the value of 1 kg/hour given in the Regulation on Control of Industrial Air Pollution, has been evaluated within the scope of the regulation by calculating the contribution values to air pollution in the project impact area.

In air quality modeling studies, "The Lakes Environmental AERMOD View program", which is used licensed by Ennotes Çevre Mühendislik Danışmanlık Elektrik Proje Taahhüt San. ve Tic. Ltd. Şti. (License No: AER0005591), has been used.

AERMOD 16216r version, which is the latest version of AERMOD published by US EPA on 20.12.2016, has been used in the program.

In the project, it is assumed that all units for which emission calculations are made work at the same time. While determining the distribution of dust emissions from the project, 2 different scenarios have been studied, taking into account the working technology and the structure of the region. These scenarios can be summarized as follows.

Scenario 1: Examining the cumulative emissions distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under uncontrolled operating conditions.

Scenario 2: Examination of the cumulative emission distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under controlled operating conditions.

Long-term meteorological data required for modeling studies are obtained from existing meteorological stations in the region. For the AERMOD model, hourly surface station data measured at air-conditioning, synoptic or automatic type stations and meteorological sounding data measured at ravinsonde type stations are required. In this study, It has been deemed appropriate to obtain the required hourly meteorological data sets from Develi Meteorology Station, which is the closest station to the project route and meteorological data belonging to this station have been used during modeling studies. Drilling data, on the other hand, have been obtained from Adana Meteorology Station, which is the closest to the project site among 8 ravinsonde stations in Turkey.

The AERMOD model uses 1-year meteorological data. For this reason, The year selection of the meteorological data to be used in the model should be made. Using the year's meteorological data representing the wind profile of the region increases the accuracy of the

modeling work. In the modeling studies, it has been benefited from long years meteorology bulletin containing data obtained from Develi Meteorology Station and wind profile of the region has been drawn. The 10-year wind profiles have been examined and the year that matched the long years has been scanned. In the evaluation made according to long-term data, The first three prevailing wind directions have been determined as North-North East (NNE), North East (NE), and South West (SW) respectively.

When the blow numbers of the 10 years are examined, it is seen that there is no one-to-one matching year with the first three prevailing wind directions. In 2013, it is seen that the prevailing winds have been blowing from the same sector with the prevailing wind direction for many years, and the number of blows of the last ten years matched with the first two aspects. For this reason, 2013 data have been used in modeling studies. (See ANNEX:26)

The subject activity of the project is planned to be established by ENERJİSA ENERJİ ÜRETİM A.Ş. in Kayseri province, Yahyalı district, Çamlıca and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills Locations.

For the AERMOD model, the working area should be defined and this area should be allocated to the receiving environment elements. If the surface distribution of the non-flue emission sources (area source) specified in the regulation is greater than 0.04 km², the facility impact area is defined as a square-shaped area with a side length of 2 km, with the area in the middle of the source square. The facility impact area has been expanded by accepting the corner points of the EIA area as the midpoint of the area with a side length of 2 km. The modeling area is taken as a larger area to include the facility impact area and other facility and settlement impact areas that intersect with the facility impact area. This area includes the receiving environment points located at 500 m intervals.

Modeling Result:

Table V.1.6.3. Air Quality Contributions for the Construction Phase of the Project

Parameter	Period	Maximum HKKD (µg/m ³) and Coordinate seen (X,Y)		HKDYY/SKHK KY Limit values (µg/m ³)
		Scenario 1 (Cumulative Uncontrolled)	Scenario 1 (Cumulative Uncontrolled)	
PM ₁₀	Daily (Max)	266,29 (716293, 4202273)	133,14 (716293, 4202273)	-
	<i>Number of overruns</i>	15	9	35 Times in a Year
	<i>Yearly</i>	9,59 (716793, 4204273)	4,79 (716793, 4204273)	40
Precipitated Dust	<i>Monthly</i>	15,66 (716793, 4204273)	7,83 (716793, 4204273)	390
	<i>Yearly</i>	12,25 (716793, 4204273)	6,12 (716793, 4204273)	210

Table V.1.6.4. Air Quality Values of the Facility at Sensitive Receptors in the Construction Phase Impact Area

Parameter	Period	Recipient Region			Maximum HKKD ($\mu\text{g}/\text{m}^3$) and Coordinate (X,Y)		HKDYY/SKHKK Y Limit values ($\mu\text{g}/\text{m}^3$)
		Residential	Distance (meter)	Direction	Scenario 1 (Cumulative Uncontrolled)	Scenario 1 (Cumulative Uncontrolled)	
PM ₁₀	Daily	Avlağı Village	3000	Northeast	106,69	50,01	50 (Can Be Exceeded 35 Times)
		Çamlıca Village	3000	South	91,22	45,61	
	Number of overruns	Avlağı Village	3000	Northeast	2	1	35 Times in a Year
		Çamlıca Village	3000	South	1	0	
	Yearly	Avlağı Village	3000	Northeast	1,23	0,62	40
		Çamlıca Village	3000	South	0,60	0,30	
Precipitated Dust	Monthly	Avlağı Village	3000	Northeast	0,62	0,31	390
		Çamlıca Village	3000	South	0,40	0,20	
	Yearly	Avlağı Village	3000	Northeast	0,51	0,26	210
		Çamlıca Village	3000	South	0,11	0,06	

Annual average HKKD (Contribution Value to Air Pollution) shows the average of HKKD calculated using the meteorological data of 2013. It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION). It shows the maximum daily (24 hour) average values of HKKD (Contribution Value to Air Pollution), with the use of one year meteorological data, It shows the values of the day with the highest HKKD calculated for each day (by taking 24-hour averages). It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION).

The HKKD (Contribution Value to Air Pollution) obtained for PM₁₀ and Settled Dust emissions is below the limit values specified in the SKHKKY. The cumulative maximum daily average HKD value calculated for PM₁₀ does not exceed the targeted KVS (Short Term Limit Value) value given in the SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION) more than 35 times.

As a result, Dust emissions from the Erciyes Wind Power Plant Project with an installed power of 65 MWm / 65 MWe planned to be realized by ENERJİSA ENERJİ ÜRETİM A.Ş. in Kayseri province, Yahyalı district, Çamlıca and Yenice districts, Sorgun, Karakuyu Hill, Sırçak

Mountain, Dümbere, Elmaçukuru and Dümbere Hills, shall be ensure that it remains within regulation limit values. Implementation of the control measures specified in the regulations and standards shall prevent the negative air quality changes that may occur at the receiving points (Settlements, sensitive uses, etc.) by reducing the dust emission.

During the project, Measures and commitments specified in the Air Quality Distribution Modeling Report (See Annex: 26) shall be respected.

V.1.7. Operations related to grounding and lightning rod installation to be carried out in the Wind Power Plant,

Grounding Systems in Wind Turbines

In all power plants; Grounding is required for the protection of workers and equipment by preventing the formation of high electrical potential differences, for minimizing the risk of electric shock to employees and animals around, for obtaining an effective protection for operation by establishing a low impedance line for leakage currents to pass to earth and ensuring that the voltage remains within reasonable limits and increasing the protection against lightning.

Wind turbine installations need special requirements for grounding. These facilities are scattered over an area that often stretches for kilometers. Because of the height of modern turbine towers, they are more often subject to lightning strikes. Also, They are generally established on hills on high-resistance ground. Therefore, it is not easy to implement normal grounding procedures in these facilities and special applications are required. All equipment of the wind plant must be connected to an uninterrupted grounding system. To this grounding system; Intermediate stations, transformers, towers, wind turbine generators and electronic equipment should also be included. This practice ensures that all equipment in the wind plant is interconnected, usually by splicing a bare conductor along the power harvesting cable and also, it reduces the resistance of the grounding system by acting as a long horizontal electrode. The grounding system in a wind plant must be able to operate effectively both for 50/60 Hz utility current frequencies and against lightning strikes, which typically have a rise time of less than 10 μ s. Normally, the same physical grounding system is used for both mains current frequencies and against lightning strikes. The response of the earthing system to the high-frequency components of the lightning current is much different than to the 50 Hz mains current.

Lightning Protection in Wind Turbines

Lightning protection zone concept for wind turbine; It consists of different EMC (electromagnetically shielded) protection zones that can be protected by lightning and over voltage modules such as potential equalization and shielding. The increase of powerful turbines in the wind Plants established in the seas has become acceptable. While a few years ago manufacturers produced turbines with a power of 1.5 MW, today they are focused on powers of 7 MW and above. In order for these turbines to work efficiently, the wind must be stronger and stable, and a larger turbine hub must be present.

The Vestas Grounding System planned to be used in the project consists of a grounding design consisting of individual grounding electrodes connected to each other as a common grounding system. Vestas Grounding System, TN system and lightning protection system, works as a voltage distribution system in the wind farm as a grounding system for the system and environment for each wind turbine.

The Vestas Grounding System consists of the following subsystems:

- High voltage system
- Low Voltage system
- Lightning protection system.
- Basic grounding.
- Grounding between wind turbines.

Vestas Lightning Protection System (LPS) consists of systems as follows;

- Lightning receptors.
- Down conductor system. It is a system for pulling down the lightning current. To avoid damaging or minimizing the LPS system, The wind turbine itself or other parts of the wind turbine.
- Protection against overvoltage and overcurrent.
- Protection against magnetic and electric fields.

A wind turbine whose foundation is grounded, all metal parts are connected to the equipotential busbar, surge suppressors, low voltage panels and information technology devices are protected, and a lightning protection system is installed on the turbine body; provides protection against electric shocks, sudden overvoltages and lightning strikes. As stated in international standards, Protection measures do not provide one hundred percent protection. The highest level of protection takes place.

V.1.8. Sources and level of noise to be occurred due to the works to be carried out during the preparation of the land and the construction of the plants,

Noise shall be generated from the machinery and equipment to be used during the preparation of the land and the construction of the facilities. In this context, noise sources and levels are calculated and modeled below.

Table V.1.8.1. Construction Equipment and Engine Powers to be Used During the Construction of the Project

Vehicle to be used	Number	Engine Power (hP)*	kW	Daily Working Time (hours)
Concrete Mixer	1	120	89,52	8
Loader	1	150	111,9	8

Crawler Dozer	1	120	89,52	8
excavator	1	150	111,9	8
Truck	5	120	89,52	8
Crane	2	130	96,98	8
Generator	1	30	22,38	8
Welder	5	30	22,38	8
Water tank	2	120	89,52	8

*Hp: Horse power = 0,746 kw

During the construction period, noise shall be generated during the operation of the machinery. Regarding the noise that may occur in the project area; the principles given in the "Machinery Safety Regulation" (2006/42/AT) prepared by the Ministry of Industry and Trade and published in the Official Gazette dated 03.03.2009 and numbered 27158 shall be provided in the tools, equipment and machines to be used. Regulations on sound power levels of tools, equipment and machines used in industrial facilities, in accordance with the provisions of the Law No. 3143 on the Organization and Duties of the Ministry of Industry and Trade, are under the authority of the Ministry of Industry and Trade. Principles for the noise and vibration levels that workers in industrial facilities are exposed to in terms of ear health and comfort shall be provided.

For this, The machines to be used shall be new and qualified, state-of-the-art technology products, and vehicles with traffic inspections and exhaust measurements shall be used.

The levels of the noise to occur in the field and the possible sources of noise are found with the help of formulas, according to the engine power levels defined in the table given in Article 5 of the Regulation on Noise Emission in the Environment Created by "Equipment Used in Open Space", which was prepared by the Ministry of Industry and Trade and entered into force by being published in the 4th repeated Official Gazette dated 30.12.2006 and numbered 26392. From the list of machinery-equipment specified in the table presented in Article 5; The Equipment Types to be used in the said field and the formulas defined according to their engine power are presented in Table V.1.8.2.

Table V.1.8.2. Sound Power Levels Defined According to Equipment Type and Their Clear Power Level

Type of equipment	Net installed power P (kW), Electric power Pel (1) (kW), Application mass m (kg), Cutting width L (cm)	Permissible sound power level dB/1 pW	
		Phase I from July 3, 2004	II. Phase From January 3, 2006,
Compaction machines (vibrating rollers, vibratory plates, vibratory hammers)	$P \leq 8$	108	105
	$8 < P \leq 70$	109	106
	$P > 70$	$89 + 11 \log P$	$86 + 11 \log P$
Tracked dozers, tracked loaders, tracked backhoe loaders	$P \leq 55$	106	103
	$P > 55$	$87 + 11 \log P$	$84 + 11 \log P$

Wheel dozers, wheel loaders, wheel backhoe-loaders, dump trucks, graders, loader-type earth-fill compactors, internal combustion engine driven counterbalanced hydraulic lift trucks, mobile cranes, compaction machines (non-vibration rollers), pavement trowels, hydraulic power generation machines	$P \leq 55$	104	101
	$P > 55$	$85 + 11 \log P$	$82 + 11 \log P$
Excavators, service lifts for carrying furniture, construction cranes, motor-operated hoeing machines	$P \leq 15$	96	93
	$P > 15$	$83 + 11 \log P$	$80 + 11 \log P$
Hand-held concrete breakers and drills	$m \leq 15$	107	105
	$15 < m < 30$	$94 + 11 \log m$	$92 + 11 \log m$
	$m \geq 30$	$96 + 11 \log m$	$94 + 11 \log m$
Tower cranes		$98 + \log P$	$96 + \log P$
Welding and power generators	$P_{el} \leq 2$	$97 + \log P_{el}$	$95 + \log P_{el}$
	$2 < P_{el} \leq 10$	$98 + \log P_{el}$	$96 + \log P_{el}$
	$P_{el} > 10$	$97 + \log P_{el}$	$95 + \log P_{el}$
Compressors	$P \leq 15$	99	97
	$P > 15$	$97 + 2 \log P$	$95 + 2 \log P$
Lawn mowers, lawn trimmers/lawn edging machines	$L \leq 50$	96	94
	$50 < L \leq 70$	100	98
	$70 < L \leq 120$	100	98
	$L > 120$	105	103

1 HP= 0,746 Kw

The noise levels to be generated by the equipment to be used in the field are related to the engine power of the equipment. The formulas in the table above are used to calculate the sound levels of the equipment:

Concrete mixer:

The motor power of the concrete mixer to be used during the project is 120 HP = 89.52 kW.

Since $P = 89.52 \text{ kW} > 55 \text{ kW}$, the formula $L_w = 82 + 11 \log P$ has been used.

$$L_w = 82 + 11 \log 89,52$$

$$L_w = 103,47 \text{ dB}$$

Loader:

The engine power of the loader to be used during the project is 150 HP = 111.9 kW.

Since $P = 111.9 \text{ kW} > 55$, $L_w = 82 + 11 \log P$ formula has been used.

$$L_w = 82 + 11 \log 111,9$$

$$L_w = 104,54 \text{ dB}$$

Crawler Dozer:

The engine power of the crawler dozer to be used during the project is 120 HP = 89.52 kW.

Since $P=89.52 \text{ kW} > 55$, $L_w=82 + 11 \text{ Log } P$ formula has been used.

$$L_w = 82 + 11 \text{ Log } 89,52$$

$$L_w = 103,47 \text{ dB}$$

Excavator:

The engine power of the excavator to be used during the project is 150 HP = 111.9 kW.

Since $P=111.9 \text{ kW} > 55$, $L_w=82 + 11 \text{ Log } P$ formula has been used.

$$L_w = 82 + 11 \text{ Log } 111,9$$

$$L_w = 104,54 \text{ dB}$$

Truck:

The engine power of the truck to be used during the project is 120 HP = 89.52 kW.

Since $P = 89.52 \text{ kW} > 55 \text{ kW}$, the formula $L_w=82 + 11 \text{ Log } P$ has been used.

$$L_w = 82 + 11 \text{ Log } 89,52$$

$$L_w = 103,47 \text{ dB}$$

Since 5 trucks shall be used within the scope of the project;

$$L_{wT} = 10 \log \sum_{i=1}^n 10^{L_{wi}/10} \text{ total sound power level with the formula:}$$

$$L_{wT} = 10 \text{ Log } 5 \times (10^{103,47/10}) = \text{It is calculated as } 110.46 \text{ dB.}$$

Crane:

The engine power of the crane to be used during the project is 130 HP = 96.98 kW.

Since $P = 96.98 \text{ kW} > 55 \text{ kW}$, the formula $L_w=82 + 11 \text{ Log } P$ has been used.

$$L_w = 82 + 11 \text{ Log } 96,98$$

$$L_w = 103,85 \text{ dB}$$

Since 2 cranes shall be used within the scope of the project;

$$L_{WT} = 10 \log \sum_{i=1}^n 10^{L_{wi}/10} \text{ total sound power level with the formula:}$$

$$L_{WT} = 10 \log 2 \times (10^{103,85/10}) = \text{It is calculated as } 106.86 \text{ dB.}$$

Generator:

The engine power of the generator to be used during the project is $P = 30 \text{ Hp} = 22.38 \text{ kW}$.

Since $P > 10 \text{ Kw}$, $(L_w) = 95 + \log P$ formula has been used.

$$L_w = 95 + \log 22,38$$

$$L_w = 96,35 \text{ dB}$$

Welding Machine:

The engine power of the welding machine to be used during the project is $P = 30 \text{ Hp} = 22.38 \text{ kW}$.

Since $P > 10 \text{ Kw}$, $(L_w) = 95 + \log P$ formula has been used.

$$L_w = 95 + \log 22,38$$

$$L_w = 96,35 \text{ dB}$$

Since 5 welding machines shall be used within the scope of the project;

$$L_{WT} = 10 \log \sum_{i=1}^n 10^{L_{wi}/10} \text{ total sound power level with the formula:}$$

$$L_{WT} = 10 \log 5 \times (10^{96,35/10}) = \text{It is calculated as } 103.34 \text{ dB.}$$

Water Truck

The engine power of the water truck to be used during the project is $120 \text{ HP} = 89.52 \text{ kW}$.

Since $P = 89.52 \text{ kW} > 55 \text{ kW}$, the formula $L_w = 82 + 11 \log P$ has been used.

$$L_w = 82 + 11 \log 89,52$$

$$L_w = 103,47 \text{ dB}$$

Since 2 water tankers shall be used within the scope of the project;

$$L_{WT} = 10 \log \sum_{i=1}^n 10^{L_{wi}/10} \text{ total sound power level with the formula:}$$

$L_{wt} = 10 \log 2 \times (10^{103,47/10}) =$ It is calculated as 106.48 dB.

Table V.1.8.3. Number of Machinery-Equipment to be Used and Sound Power Levels

Machine Type	Number of Machines	Sound Power (Lw) (dBA) of a Machine	Total Sound Power (Lwt) (dBA) (dBA)
Concrete Mixer (transmixer)	1	103,47	103,47
Loader	1	104,54	104,54
Crawler Dozer	1	103,47	103,47
excavator	1	104,54	104,54
Truck	5	103,47	110,46
Crane	2	103,85	106,86
Generator	1	96,35	96,35
Welder	5	96,35	103,34
Water tank	2	103,47	106,48

(Source: Regulation on the noise emission in the environment created by the Equipment used in the open area, published in the Official Gazette dated 30.12.2006 and numbered 26392)

The distribution of the total sound power level of the noise sources in the table above to 4 octave bands between 500 and 4,000 Hz is given in the table below. For this purpose, The sound power level in each octave band has been calculated by performing the addition in reverse with decibels.

Table V.1.8.4. Distribution of Sound Power Levels to Octave Bands

Noise Sources	Sound Power Levels			
	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
CONCRETE MIXER	97.4	97.4	97.4	97.4
LOADER	98.5	98.5	98.5	98.5
TRACKED DOZER	97.4	97.4	97.4	97.4
EXCAVATOR	98.5	98.5	98.5	98.5
TRUCK	104.4	104.4	104.4	104.4
CRANE	100.8	100.8	100.8	100.8
GENERATOR	90.3	90.3	90.3	90.3
WELDER	97.3	97.3	97.3	97.3
WATER TANK	100.5	100.5	100.5	100.5

The sound pressure level of the noise source in the 4 octave band has been calculated according to the formula below. The results are again given in the table below.

$$L_p = L_w + 10 \log (Q / 4 \pi r^2)$$

L_w = Sound power level of the source (dB)

Q = Direction coefficient (1 for moving sources)

r = Distance from source (meters)

Table V.1.8.5. Sound Pressure Levels

Noise Sources	Distance	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
CONCRETE MIXER	50	55.51	55.51	55.51	55.51
	150	45.97	45.97	45.97	45.97
	250	41.53	41.53	41.53	41.53
	500	35.51	35.51	35.51	35.51
	750	31.99	31.99	31.99	31.99
	1000	29.49	29.49	29.49	29.49
	2000	23.47	23.47	23.47	23.47
	3000	19.95	19.95	19.95	19.95
LOADER	50	56.58	56.58	56.58	56.58
	150	47.04	47.04	47.04	47.04
	250	42.60	42.60	42.60	42.60
	500	36.58	36.58	36.58	36.58
	750	33.06	33.06	33.06	33.06
	1000	30.56	30.56	30.56	30.56
	2000	24.54	24.54	24.54	24.54
	3000	21.02	21.02	21.02	21.02
TRACKED DOZER	50	55.51	55.51	55.51	55.51
	150	45.97	45.97	45.97	45.97
	250	41.53	41.53	41.53	41.53
	500	35.51	35.51	35.51	35.51
	750	31.99	31.99	31.99	31.99
	1000	29.49	29.49	29.49	29.49
	2000	23.47	23.47	23.47	23.47
	3000	19.95	19.95	19.95	19.95
EXCAVATOR	50	56.58	56.58	56.58	56.58
	150	47.04	47.04	47.04	47.04
	250	42.60	42.60	42.60	42.60
	500	36.58	36.58	36.58	36.58
	750	33.06	33.06	33.06	33.06
	1000	30.56	30.56	30.56	30.56
	2000	24.54	24.54	24.54	24.54
	3000	21.02	21.02	21.02	21.02
TR UC K	50	62.50	62.50	62.50	62.50
	150	52.96	52.96	52.96	52.96

	250	48.52	48.52	48.52	48.52
	500	42.50	42.50	42.50	42.50
	750	38.98	38.98	38.98	38.98
	1000	36.48	36.48	36.48	36.48
	2000	30.46	30.46	30.46	30.46
	3000	26.94	26.94	26.94	26.94
CRANE	50	58.90	58.90	58.90	58.90
	150	49.36	49.36	49.36	49.36
	250	44.92	44.92	44.92	44.92
	500	38.90	38.90	38.90	38.90
	750	35.38	35.38	35.38	35.38
	1000	32.88	32.88	32.88	32.88
	2000	26.86	26.86	26.86	26.86
	3000	23.34	23.34	23.34	23.34
GENERATOR	50	48.39	48.39	48.39	48.39
	150	38.85	38.85	38.85	38.85
	250	34.41	34.41	34.41	34.41
	500	28.39	28.39	28.39	28.39
	750	24.87	24.87	24.87	24.87
	1000	22.37	22.37	22.37	22.37
	2000	16.35	16.35	16.35	16.35
	3000	12.83	12.83	12.83	12.83
WELDING MACHINE	50	55.38	55.38	55.38	55.38
	150	45.84	45.84	45.84	45.84
	250	41.40	41.40	41.40	41.40
	500	35.38	35.38	35.38	35.38
	750	31.86	31.86	31.86	31.86
	1000	29.36	29.36	29.36	29.36
	2000	23.34	23.34	23.34	23.34
	3000	19.82	19.82	19.82	19.82
WATER TANK	50	58.52	58.52	58.52	58.52
	150	48.98	48.98	48.98	48.98
	250	44.54	44.54	44.54	44.54
	500	38.52	38.52	38.52	38.52
	750	35.00	35.00	35.00	35.00
	1000	32.50	32.50	32.50	32.50
	2000	26.48	26.48	26.48	26.48
	3000	22.96	22.96	22.96	22.96

According to the observation data of Develi Meteorology Station, The annual average relative humidity has been measured as 59.1% and the humidity value has been taken as $Q=59.1\%$ in the calculations.

$$A_{\text{atm}} = 7,4 \cdot 10^{-8} (f^2 r / \Phi)$$

F : Frequency of the noise source

r : Distance

Φ : Relative humidity

Table V.1.8.6. Atmospheric Absorption

OCTAVE BAND (Hz)	Distance (m)	Atmospheric Absorption
500	50	0.02
	150	0.05
	250	0.08
	500	0.16
	750	0.23
	1000	0.31
	2000	0.63
	3000	0.94
1000	50	0.06
	150	0.19
	250	0.31
	500	0.63
	750	0.94
	1000	1.25
	2000	2.50
	3000	3.76
2000	50	0.25
	150	0.75
	250	1.25
	500	2.50
	750	3.76
	1000	5.01
	2000	10.02
	3000	15.03
4000	50	1.00
	150	3.01
	250	5.01
	500	10.02
	750	15.03
	1000	20.03
	2000	40.07

OCTAVE BAND (Hz)	Distance (m)	Atmospheric Absorption
	3000	60.10

After deducting the atmospheric absorption values, The final sound pressure level in the 4 octave band of each noise source has been calculated according to the formula below. The results are again given in the table below.

$$L_p = L_p - A_{atm}$$

Table V.1.8.7. Ultimate Sound Pressure Levels

Noise Sources	Distance	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
CONCRETE MIXER	50	55.50	55.45	55.26	54.51
	150	45.92	45.78	45.22	42.96
	250	41.45	41.22	40.28	36.52
	500	35.35	34.88	33.01	25.49
	750	31.75	31.05	28.23	16.96
	1000	29.18	28.24	24.48	9.46
	2000	22.84	20.97	13.45	-16.60
	3000	19.01	16.19	4.92	-40.15
LOADER	50	56.57	56.52	56.33	55.58
	150	46.99	46.85	46.29	44.03
	250	42.52	42.29	41.35	37.59
	500	36.42	35.95	34.08	26.56
	750	32.82	32.12	29.30	18.03
	1000	30.25	29.31	25.55	10.53
	2000	23.91	22.04	14.52	-15.53
	3000	20.08	17.26	5.99	-39.08
TRACKED DOZER	50	55.50	55.45	55.26	54.51
	150	45.92	45.78	45.22	42.96
	250	41.45	41.22	40.28	36.52
	500	35.35	34.88	33.01	25.49
	750	31.75	31.05	28.23	16.96
	1000	29.18	28.24	24.48	9.46
	2000	22.84	20.97	13.45	-16.60
	3000	19.01	16.19	4.92	-40.15
EXCAVATOR	50	56.57	56.52	56.33	55.58
	150	46.99	46.85	46.29	44.03
	250	42.52	42.29	41.35	37.59
	500	36.42	35.95	34.08	26.56
	750	32.82	32.12	29.30	18.03
	1000	30.25	29.31	25.55	10.53
	2000	23.91	22.04	14.52	-15.53
	3000	20.08	17.26	5.99	-39.08

TRUCK	50	62.49	62.44	62.25	61.50
	150	52.91	52.77	52.21	49.95
	250	48.44	48.21	47.27	43.51
	500	42.34	41.87	40.00	32.48
	750	38.74	38.04	35.22	23.95
	1000	36.17	35.23	31.47	16.45
	2000	29.83	27.96	20.44	-9.61
	3000	26.00	23.18	11.91	-33.16
CRANE	50	58.89	58.84	58.65	57.90
	150	49.31	49.17	48.61	46.35
	250	44.84	44.61	43.67	39.91
	500	38.74	38.28	36.40	28.88
	750	35.14	34.44	31.62	20.35
	1000	32.57	31.63	27.87	12.85
	2000	26.23	24.36	16.84	-13.21
	3000	22.40	19.58	8.31	-36.76
GENERATOR	50	48.38	48.33	48.14	47.39
	150	38.80	38.66	38.10	35.84
	250	34.33	34.10	33.16	29.40
	500	28.23	27.76	25.89	18.37
	750	24.63	23.93	21.11	9.84
	1000	22.06	21.12	17.36	2.34
	2000	15.72	13.85	6.33	-23.72
	3000	11.89	9.07	-2.20	-47.27
WELDING MACHINE	50	55.37	55.32	55.13	54.38
	150	45.79	45.65	45.09	42.83
	250	41.32	41.09	40.15	36.39
	500	35.22	34.75	32.88	25.36
	750	31.62	30.92	28.10	16.83
	1000	29.05	28.11	24.35	9.33
	2000	22.71	20.84	13.32	-16.73
	3000	18.88	16.06	4.79	-40.28
WATER TANK	50	58.51	58.46	58.27	57.52
	150	48.93	48.79	48.23	45.97
	250	44.46	44.23	43.29	39.53
	500	38.36	37.90	36.02	28.50
	750	34.76	34.06	31.24	19.97
	1000	32.19	31.25	27.49	12.47
	2000	25.85	23.98	16.46	-13.59
	3000	22.02	19.20	7.93	-37.14

The correction factors in the table below have been used to calculate the weight sound levels.

Table V.1.8.8. Correction Factors

Center Frequency	Correction Factor
500	-3.20
1000	0.00
2000	1.20
4000	1.00

As a result of the calculation made with the correction factors in the table above, the sound levels found for the 4 octave bands of each noise source and the total sound levels according to the formula given below are given in the table below.

$$L_T = 10 \log \sum 10^{L_i/10}$$

L_T : Total sound level

L_i : Sound level whose noise source has been corrected

Table V.1.8.9. Total Sound Levels

Noise Sources	Distance	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz	Total Sound Level
CONCRETE MIXER	50	52.30	55.45	56.46	55.51	61.20
	150	42.72	45.78	46.42	43.96	50.98
	250	38.25	41.22	41.48	37.52	45.98
	500	32.15	34.88	34.21	26.49	38.92
	750	28.55	31.05	29.43	17.96	34.67
	1000	25.98	28.24	25.68	10.46	31.59
	2000	19.64	20.97	14.65	0.00	23.93
	3000	15.81	16.19	6.12	0.00	19.28
LOADER	50	53.37	56.52	57.53	56.58	62.27
	150	43.79	46.85	47.49	45.03	52.05
	250	39.32	42.29	42.55	38.59	47.05
	500	33.22	35.95	35.28	27.56	39.99
	750	29.62	32.12	30.50	19.03	35.74
	1000	27.05	29.31	26.75	11.53	32.66
	2000	20.71	22.04	15.72	0.00	25.00
	3000	16.88	17.26	7.19	0.00	20.34
TRACKED DOZER	50	52.30	55.45	56.46	55.51	61.20
	150	42.72	45.78	46.42	43.96	50.98
	250	38.25	41.22	41.48	37.52	45.98
	500	32.15	34.88	34.21	26.49	38.92
	750	28.55	31.05	29.43	17.96	34.67
	1000	25.98	28.24	25.68	10.46	31.59
	2000	19.64	20.97	14.65	0.00	23.93
	3000	15.81	16.19	6.12	0.00	19.28
EXCAVATOR	50	53.37	56.52	57.53	56.58	62.27
	150	43.79	46.85	47.49	45.03	52.05

	250	39.32	42.29	42.55	38.59	47.05
	500	33.22	35.95	35.28	27.56	39.99
	750	29.62	32.12	30.50	19.03	35.74
	1000	27.05	29.31	26.75	11.53	32.66
	2000	20.71	22.04	15.72	0.00	25.00
	3000	16.88	17.26	7.19	0.00	20.34
TRUCK	50	59.29	62.44	63.45	62.50	68.19
	150	49.71	52.77	53.41	50.95	57.97
	250	45.24	48.21	48.47	44.51	52.97
	500	39.14	41.87	41.20	33.48	45.91
	750	35.54	38.04	36.42	24.95	41.66
	1000	32.97	35.23	32.67	17.45	38.58
	2000	26.63	27.96	21.64	0.00	30.91
CRANE	3000	22.80	23.18	13.11	0.00	26.23
	50	55.69	58.84	59.85	58.90	64.59
	150	46.11	49.17	49.81	47.35	54.37
	250	41.64	44.61	44.87	40.91	49.37
	500	35.54	38.28	37.60	29.88	42.31
	750	31.94	34.44	32.82	21.35	38.06
	1000	29.37	31.63	29.07	13.85	34.99
	2000	23.03	24.36	18.04	0.00	27.31
GENERATOR	3000	19.20	19.58	9.51	0.00	22.65
	50	45.18	48.33	49.34	48.39	54.08
	150	35.60	38.66	39.30	36.84	43.86
	250	31.13	34.10	34.36	30.40	38.86
	500	25.03	27.76	27.09	19.37	31.80
	750	21.43	23.93	22.31	10.84	27.55
	1000	18.86	21.12	18.56	3.34	24.47
	2000	12.52	13.85	7.53	0.00	16.88
WELDING MACHINE	3000	8.69	9.07	0.00	0.00	12.42
	50	52.17	55.32	56.33	55.38	61.07
	150	42.59	45.65	46.29	43.83	50.85
	250	38.12	41.09	41.35	37.39	45.85
	500	32.02	34.75	34.08	26.36	38.79
	750	28.42	30.92	29.30	17.83	34.54
	1000	25.85	28.11	25.55	10.33	31.46
	2000	19.51	20.84	14.52	0.00	23.80
WATER TANK	3000	15.68	16.06	5.99	0.00	19.16
	50	55.31	58.46	59.47	58.52	64.21
	150	45.73	48.79	49.43	46.97	53.99
	250	41.26	44.23	44.49	40.53	48.99
	500	35.16	37.90	37.22	29.50	41.93
	750	31.56	34.06	32.44	20.97	37.68
	1000	28.99	31.25	28.69	13.47	34.61

	2000	22.65	23.98	17.66	0.00	26.93
	3000	18.82	19.20	9.13	0.00	22.27

With the worst case scenario, the equivalent noise levels to occur ,if each noise source operates at the same time, have been calculated. It is also given in the table below. For this purpose, The following formula has been used and calculations have been made considering the number of equipment.

Equivalent noise levels to be calculated from the formula ($L_{day} = L_{eq}$) $L_{eq} = 10 \log \sum 10^{L_{T(i)}/10}$ and Lday levels have been found and the following table and graph have been created.

Day V.1.8.10. Lday Levels in operation phase

Distance	Lday(dBA)
50	85.72
150	75.50
250	70.50
500	63.44
750	59.19
1000	56.12
2000	48.45
3000*	43.81

* The noise value to be felt in Çamlıca Mahallesi, which is 3,000 meters from the turbine numbered T25, and Avlağı Mahallesi, which is 3,000 meters from the turbine numbered T15, which are the closest settlements.

Distribution Graph of Noise According to Distances

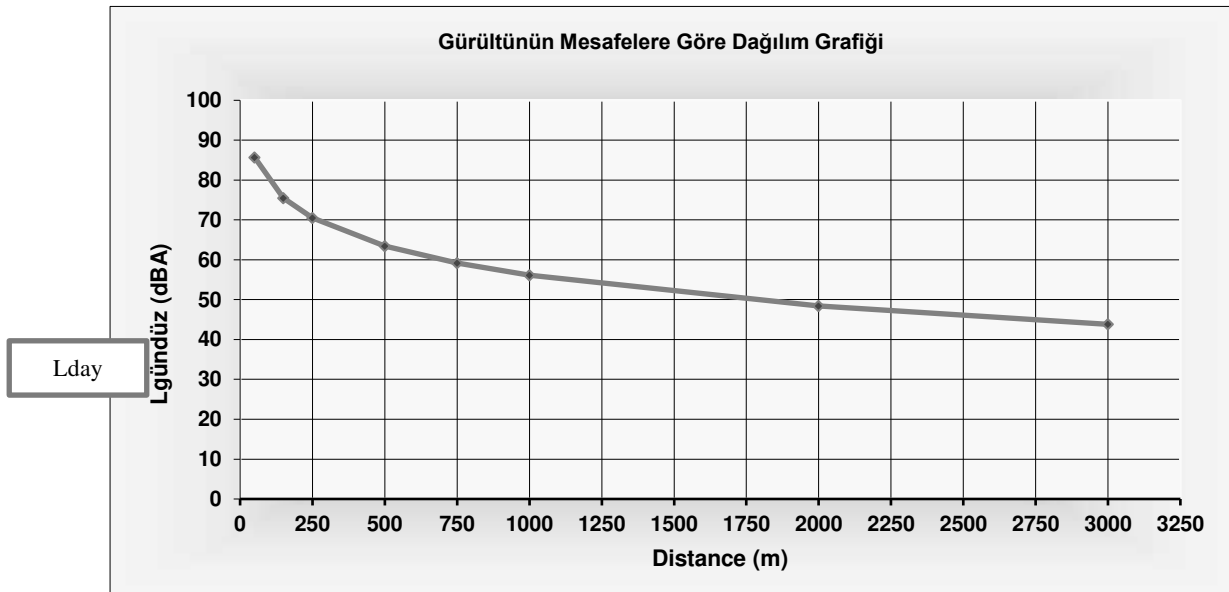


Chart V.1.8.1. Distribution of Noise by Distance Graph

Table V.1.8.11. Limit values for construction site noise according to the ÇGDY (Regulation on Evaluation and Management of Environmental Noise) Regulation

Type of activity	Lday(dBA) (07.00-19.00)
Building	70
Road	75
Other resources	70

Calculations have been made with the assumption that all vehicles and equipment work at the same point. During the project, the equivalent noise level likely to be felt in Çamlıca Mahallesi, which is 3,000 meters from the T25 turbine and in Avlağı, which is 3,000 meters from the T15 turbine, is 43,81 dBA. It is observed that this value is below the noise limit value of 70 dBA, which is the limit value for "other sources" among the construction site noises specified in the "Regulation on the Evaluation and Management of Environmental Noise", which was published in the Official Gazette dated 04.06.2010 and numbered 27601".

At all stages of the project, It shall be complied the provisions of the "Regulation on Evaluation and Management of Environmental Noise", which entered into force by being published in the Official Gazette dated 04.06.2010 and numbered 27601.

V.1.9. The amount and characteristics of solid waste to be generated within the scope of the project, how it will be disposed of,

Domestic Municipal Wastes

Among the solid wastes to be generated during the construction phase; There are Domestic municipal wastes to be originated by the working personnel. The amount of municipal solid waste to be generated by the personnel to be employed in the construction operations is calculated below.1 (Kayseri: 0.87 kg/day).

The amount of municipal waste produced by one person per day = 0.87 kg/person-day

Number of staff to work = 40 people

Municipal Waste Amount = 0.87 kg/person-day x 40 persons
= 34.8 kg/day

Packaging wastes (recyclable) constitute approximately 12.05% of municipal municipal waste. (Source: Environment and Sustainable Waste Panel, Cezmi Neyim Çevko Panel). In this case, the amount of packaging waste to be generated during the operation phase of the project shall be as follows;

Amount of Packaging Waste = Amount of Municipal Waste x 0.1205

Amount of Packaging Waste = 34.8 kg/day x 0.1205

Amount of Packaging Waste = 4.2 kg/day

In this case, the amount of biodegradable waste has been calculated as follows;

Amount of biodegradable waste = Total Amount of Domestic Municipal Waste –
Amount of Packaging Waste

Amount of biodegradable waste = 34.8 kg/day – 4.2 kg/day

Amount of biodegradable waste = 30.6 kg/day

Accordingly, the waste codes and amounts of Domestic municipal waste to be generated during the construction phase are given in the table below.

Table V.1.9.1 Codes and Quantities of Municipal Wastes in Domestic Qualified to be Generated During Construction

Waste Code	Explanation	Quantity	Method of Disposal
		Kg/day	
20-Municipal Wastes Including Separately Collected Fractions (Domestic Waste and Similar Commercial, Industrial and Institutional Wastes)			
20 01 01	paper and cardboard (%6)	2,088	It shall be collected separately at its source and disposed of in the Yahyalı Municipality garbage collection system by the activity owner.
20 01 02	Glass (%6)	2,088	
20 01 08	Biodegradable kitchen and canteen waste (%88)	30,624	
TOTAL		34,8	

Packaging Waste

Packaging wastes (recyclable) constitute approximately 12.05% of Domestic municipal waste (Source: Environment and Sustainable Waste Panel, Cezmi Neyim Çevko Panel). In this case, the amount of packaging waste to be generated during the operation phase of the project has been calculated as 4.2 kg/day.

Waste codes and amounts of packaging wastes to be generated during the construction phase are given in Table V.1.9.2.

Table V.1.9.2. Codes and Quantities of Packaging Wastes to Be generated During Construction

Waste Code	Explanation	Quantity	Method of Disposal
		Kg/day	
15 01 Packaging (Including Separately Collected Packaging Waste of the Municipality)			
15 01 01	Paper and cardboard packaging (45%)	1,89	It shall be given to licensed recycling companies after being stored in accordance with the provisions of the "Packaging Waste Control Regulation".
15 01 02	Plastic packaging (20%)	0,84	
15 01 06	Mixed packaging (20%)	0,84	
15 01 07	Glass packaging (15%)	0,63	
TOTAL		4,2	

During the construction phase of the project, domestic municipal waste and packaging waste shall be generated. Evaluable packaging wastes shall be separated into paper, glass, plastic, and metal forms and shall be collected in closed garbage bins or in durable garbage bags to be recycled. Domestic municipal wastes shall be collected in closed garbage bins or durable garbage bags and shall be collected from the field by Yahyalı Municipality. In this context, The letter dated 15.11.2017 and numbered 2687 given by Yahyalı Municipality is presented in Annex: 12. Domestic municipal wastes and packaging wastes shall not be left to the field haphazardly and shall not be abandoned to nature.

Regarding the disposal of municipal waste, It shall be complied with the provisions of the "Waste Management Regulation" which entered into force after being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016) and the provisions of the "Packaging Waste Control Regulation", which came into force after being published in the Official Gazette dated 24.08.2011 and numbered 28035, on the collection, recovery and disposal of packaging wastes.

Construction Waste

Construction wastes to be released during the installation of the turbines during the construction phase of the project are the wastes; rubble, sheet metal and metal pieces, timber etc. Waste codes and approximate amounts of these wastes are given in Table V.1.9.3.

Table V.1.9.3. Codes and Quantities of Construction Wastes to Be Occurred During Construction

Waste Code	Explanation	Quantity (Approximate Values)	Method of Disposal
		Kg/year	
<i>17 Construction and Demolition Wastes (Including Excavation from Contaminated Areas)</i>			
17 01 01	Concrete	100	These wastes shall be recovered or disposed of in accordance with the Waste Management Regulation..
17 01 02	Bricks	50	
17 01 03	Tiles and ceramics	10	
17 02 01	Wooden	200	
17 02 02	Glass	50	
17 02 03	Plastic	250	
TOTAL		660	

These wastes shall be recovered or disposed of in accordance with the Waste Management Regulation. Sheet metal and metal parts, packaging and boxes, timber wastes etc., which are in the evaluable class of materials to be used in construction, considering the chemical properties of these wastes, paper and paper products shall be collected separately as

plastic waste and shall be accumulated and recycled by giving them to licensed recycling companies.

For the recovery and disposal of construction waste in the project, It shall be complied with "Waste Management Regulation" which entered into force by being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016) and communiqués issued within the scope of this regulation.

Waste Consumables (Waste Battery, Battery, Toner, Fluorescent)

The maintenance of the construction machines to be operated within the scope of the project will be carried out at authorized services and no waste accumulators shall be formed within the facility. After the batteries, fluorescent lamps and printer toners to be used in the administration building have completed their life, they shall be stored in closed containers separately from other wastes in the facility area according to the provisions of the Waste Batteries and Accumulators Control Regulation and Waste Management Regulation, and shall be given to recycling companies licensed by the Ministry of Environment and Urbanization. Documents taken from disposal facilities shall be kept for 5 years to be submitted to the authorities.

Table V.1.9.4. Waste Batteries and Accumulators and Their Quantities to Be Formed During Construction

Waste Code	Explanation	Quantity (Approx.)	Method of Disposal
<i>16 Wastes Not Otherwise Specified In The List</i>			
16 06 04	Alkaline batteries (except 16 06 03)	50pcs/year (battery)	According to the provisions of the Regulation on Control of Waste Batteries and Accumulators, It shall be kept in closed containers separately from other wastes in the facility area and given to recycling companies licensed by the Ministry of Environment and Urbanization.
16 06 05	Other batteries and accumulators	19 pcs/year (battery)	

In Project, It shall be complied with the provisions of the "Waste Management Regulation" that came into force after being published in the Official Gazette 29314 and published in the Official Gazette dated 31.08.2004 and numbered 25569 and entered into force on 02.04.2015 and Waste Batteries and Accumulators Control Regulation (Amended: OG-5/11/2013-28812).

End-of-life Tires

Tires from the construction equipment and trucks to be used in the construction phase in the project area shall be temporarily collected in the project area and shall be disposed of

by giving it to licensed institutions authorized by the Ministry of Environment and Urbanization. Documents taken from disposal facilities shall be kept for 5 years to be submitted to the authorities.

Table V.1.9.5 End-of-Life Tires to Be Formed During Construction and Their Quantities

Waste Code	Explanation	Quantity	Method of Disposal
16 End-of-Life Vehicles in Various Types of Transport (Including Construction Machines) and Wastes from Dismantling of End-of-Life Vehicles and Vehicle Maintenance (except 13, 14, 16 06 and 16 08)			
16 01 03	End-of-life tires	152 units/year (It is assumed that tires of 19 construction machines shall be changed twice a year.)	It shall be temporarily accumulated in the project area and will be disposed of by giving it to licensed institutions authorized by the Ministry of Environment and Urbanization.

It shall be complied with the provisions of the "Regulation on Control of End-of-Life Tires" (Amended-10/11/2013-28817), which was published in the Official Gazette dated 25.11.2006 and numbered 26357.

V.1.10. The amount of water to be used within the scope of the project, where and how it is obtained, how the wastewater to be generated as a result of the use of these waters shall be given to which receiving environment after which processes, and the characteristics of these waters,

In the project, for the purpose of personnel use and dust reduction during the construction phase, there shall be water use. In addition, some water shall be used in concrete pouring.

It is planned that 40 people shall work during the construction phase of the project. (Water usage amount per person: 150 lt/person-day data is used)(1)

Water consumption of one person = 150 lt/ person-day

Number of staff to work = 40 people

Required amount of Water = 150 lt/ person-day x 40 people
= 6.000 lt/day (6 m3/day)

During the construction works, The amount of water that the personnel shall consume daily is 6 m3. This amount shall result from the use of the construction site, social facilities, dining hall and toilet-shower.

Apart from personnel consumption, the amount of water to be consumed in spraying in order to prevent dust emission during the spraying of roads and excavation-filling works, has

been calculated in the table below. A value of 1.5 lt/m² (MUSLU Y, Treatment of Used Water, Istanbul, 1994) has been used in the calculations.

The total length of the connection access roads between the turbines in the project is 48,000 m and the width is 10 meters. The road area is 480.000 m². In the project, The opening and arrangement of the roads between the turbines shall be carried out to cover 80 days of the total construction period.

Again in the project, The excavation and filling of the turbine foundations (each 283,385 m² = 7,084.625 m² in total) shall be carried out to cover 120 days of the total construction period. For the platform excavations of 1,250 m², a total of 31,250 m² of excavation shall be completed in 180 days. In the switchyard of 31,044 m², the vegetative soil excavation shall be completed in 45 days.

In this context, it has been calculated as follows;

$$\text{m}^2 \text{ of road to be opened daily} = 480.000 \text{ m}^2 / 80 \text{ days} = 6.000 \text{ m}^2 / \text{day}$$

$$\text{Daily turbine foundation excavation m}^2 = 7,084.625 \text{ m}^2 / 120 \text{ days} = 59 \text{ m}^2$$

$$\text{Daily Switchgear Excavation m}^2 = 31.044 \text{ m}^2 / 45 = 689.8 \text{ m}^2$$

$$\text{Daily Turbine Platform excavation m}^2 = 31.250 / 180 = 173.6 \text{ m}^2$$

In the table below, daily water consumption amounts are calculated based on these values.

Table V.1.11.1. Construction Phase Water Use and Its Supply

Purpose of Water Use	Purpose of Water Use	Purpose of Water Use
Spraying for Turbine Foundation Excavation - Filling (59 m ² /day)	59x1.5=88,5 lt/ day = 0,08 m ³	The total water requirement shall be provided by tankers, and the opinion of Yahyalı Municipality is given in Annex: 12.
Spraying on roads (6.000 m ²)	6.000 x 1,5=9.000 lt/ day = 9 m ³	
Switchyard Excavation Spraying (689.8 m ²)	689,8x1,5=1.034,7 lt/ day = 1,03 m ³	
Turbine Platforms Excavation Spray (173.6m ²)	173,6x1,5=260,4 lt/day= 0,26 m ³	
Necessary for the daily needs of the staff	6	
TOTAL	16,37	

It is planned that the drinking water to be used during the construction phase of the project shall be met by prepackaged water, and the usage section shall be met by authorized water tankers. In this context, It has been applied to Yahyalı Municipality and the water supply letter is presented in Annex-12.

It shall be complied with the provisions of the "Regulation on Water Intended for Human Consumption", which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730 (Amended RG-7/3/2013-28580).

With the calculation that all the water to be used by the personnel turn into wastewater, There shall be 6 m³/day wastewater generation.

Ready-mixed concrete shall be supplied from licensed concrete plants. The water required for ready-mixed concrete is supplied by the concrete supplier at the place where the concrete is prepared. The water to be used in both ready-mixed concrete and cast-in-situ concrete production shall not form any wastewater since it remains within the material.

Table V.1.11.2. Pollutants and Average Concentrations in Domestic Wastewater (Benfield, L. And Randall, C., 1980)

Parameter	Concentration (mg/l)
pH	6-9
AKM	200
BOİ ₅	200
KOİ	500
Total nitrogen	40
Total Phosphorus	10

According to the table above, the pollutant loads in the domestic wastewater are calculated and given below.

Table.1.11.3. Construction Phase Domestic Wastewater Pollutant Loads

Parameter	Concentration (kg/day)
AKM	1,2
BOİ ₅	1,2
KOİ	3
Total nitrogen	0,24
Total Phosphorus	0,06

The wastewater to be generated in the project shall be collected in 1 impermeable septic tank to be constructed. The wastewater collected in the septic tank shall be drawn by the vacuum truck for a fee as it fills, and will be given to the wastewater network of Kayseri Municipality (KASKİ). Regarding the vacuum truck service, an application was made to the General Directorate of Water and Sewerage Administration of Kayseri Metropolitan Municipality. The opinion received in this context is given in Annex: 12.

The dimensions of the impermeable septic tank to be constructed in the activity area shall be 5 m x 5 m x 6 m. The depth of the septic tank has been taken as 6 m with a safety margin of 1 m. However, A maximum of 5 meters of this shall be filled. According to this;

During the construction phase, it is sufficient to pull the septic tank $125 \text{ m}^3 / 6 \text{ m}^3 / \text{day} = 20$ -day periods.

While applying this process, it shall be complied with Principles of "Regulation on Pits to be Built in Places where Sewer Constructing is Impossible", which was published in the Official Gazette dated 19.03.1971 and numbered 13783. Septic tank plan is given in Annex:12.

At every stage of the project, it shall be complied with all relevant issues specified in the Ministry of Health's Regulation No. 251 on "Pits to be Constructed in Places where Sewer Construction is Impossible". In addition, it shall be complied with "Water Pollution Control Regulation", which was published in the Official Gazette dated 31.12.2004 and numbered 25687, regarding the liquid wastes generated at the facility and All relevant matters stated in the "Regulation on Amending the Water Pollution Control Regulation", which came into force after being published in the Official Gazette dated 13.02.2008 and numbered 26786.

V.1.11. The natural plant species to be eliminated and the area in which these works will be carried out, in order to prepare the land and to obtain the necessary land for the construction site,

25 turbines shall be installed at the power plant site. During the opening of turbine foundations, turbine platforms and connection access roads between turbines, vegetation shall be stripped.

Each of the wind turbines shall cover a foundation area of $283,385 \text{ m}^2$. There is $283.385 \text{ m}^2 \times 25 \text{ units} = 7,084.625 \text{ m}^2$ total turbine area usage. During the construction phase of the project, a prefabricated container type construction site of 500 m^2 shall be established.

In the project, there is a main transportation line in the power plant area. In order to provide the transportation network between the turbines, it is planned to open connection roads, with a total length of $48,000 \text{ m}$ and a width of 10 m . In this context, the area usage of the connection roads shall be 480.000 m^2 .

In the project, There shall be permanent land use for turbine foundations, turbine access roads use and vegetation biomass loss in this area.

For turbine construction platforms, an area of $1,250 \text{ m}^2$ shall be used for each turbine. In total, an area of $31,250 \text{ m}^2$ is temporarily used.

Following the completion of the construction works, the construction site shall be dismantled and the area shall be brought back to its former position.

In the project area, The excavation soil emerging during the foundation excavations and vegetative soil stripping works during the construction phase shall be stored in 7 selected

Excavation Areas (each of which is 3.000 m² and a total of 21.000 m²) and The vegetative soil, on the other hand, shall be stored separately in temporary storage areas in 7 selected Vegetative Soil Stock Areas (each of which is 10,000 m² and 70,000 m²) without losing its vitality. Selected Excavation Storage Areas and Vegetative Soil Stock Area are shown in the Layout Plan. (Annex :3)

Vegetative soil landscaping, whose vitality is preserved in the project, shall be used in elements such as landscaping and It shall be able to develop again thanks to its vegetative parts such as seed rhizome etc.

In addition, plant species spreading in and around the Erciyes WPP Project area has been evaluated in detail in the Ecosystem Evaluation Report presented in Annex: 25. Endemic or protected species that require conservation measures are included. For this reason, It is thought that the destruction that may occur with the excavation planned to be carried out in the area shall not threaten the existence of endemic or other species.

V.1.12. The size of the agricultural lands to be sold out in order to prepare the land and to obtain the necessary land for the construction site, their land use capabilities and agricultural product types, permits and commitments to be taken,

The Property Status Map of the project area and the Expropriation Plan prepared within the scope of the project are given in ANNEX:5. Accordingly, a part of the power plant area remains in pasture land and a part in forest areas. In addition, There is some private land in the nature of fields on the connection roads. Within the scope of the project, Transactions to change the forest permit and pasture allocation purpose and non-agricultural use permit transactions shall be carried out after the EIA process.

Table V.1.12.1. List of Immovable Property in Range of Pasture and Field within the Scope of the Project

TOW N	VILLAG E	PLOT NO	OWNERS			TYPE OF PROPERTY	FIELD OF THE PROPERTY (m ²)	The acreage of the area which shall be carried out expropriation (m ²)	PURPOSE OF EXpropriation
			NAME AND SURNAME	FATHE R NAME	SHARE RATIO				
Yahya lı	Çamlıca	155/1	COMMON PROPERTY		WHOLE	PASTURELAND	1466884. 00	45912.30	ROAD AND TURBI NE AREA
Yahya lı	Çamlıca	156/2	COMMON PROPERTY		WHOLE	PASTURELAND	5267178. 00	236733.0 0	ROAD AND TURBI NE AREA
Yahya lı	Çamlıca	156/73	MEHMET BAŞ	HASAN	WHOLE	FIELD	7507.00	1625.40	ROAD

Yahya lı	Çamlıca	156/74	ZÜLFİKAR SİPAHİ	KERİM	WHOLE	FIELD	7307.00	704.43	ROAD
Yahya lı	Çamlıca	156/75	ŞABAN GEYİK	OSMAN	WHOLE	FIELD	3003.00	388.42	ROAD
Yahya lı	Çamlıca	156/77	DURAN DİNÇER	NASUF	1/9	FIELD	4431.00	921.57	ROAD
			HÜSEYİN DİNÇER	NASUF	1/9				
			MUNİN DİNÇER	NASUF	1/9				
			HAVVA DİNÇER	NASUF	1/9				
			MELEK KILIBOZ	NASUF	1/9				
			ŞEREF DİNÇER	NASUF	1/9				
			MEHMET DİNÇER	NASUF	1/9				
			RAMAZAN DİNÇER	NASUF	1/9				
			DGÜLAY DİNÇER	NASUF	1/9				
Yahya lı	Çamlıca	156/78	RAMAZAN KOYUNCU	DEMİR ALİ	1/9	FIELD	1043.00	101.12	ROAD
			SELVER KİPER	DEMİR ALİ	1/9				
			KAZİM KOYUNCU	DEMİR ALİ	1/9				
			ADNAN KOYUNCU	DEMİR ALİ	1/9				
			HAYRİYE İNCECİ	DEMİR ALİ	1/9				
			KADİRE EKİM	DEMİR ALİ	1/9				
			ALİ OSMAN KOYUNCU	DEMİR ALİ	1/9				
			SONER KOYUNCU	DEMİR ALİ	1/9				
			AHMET KOYUNCU	DEMİR ALİ	1/9				
Yahya lı	Çamlıca	156/79	OSMAN KOYUCU	SALİH	0/1	FIELD	2792.00	281.24	ROAD
			NİZAMETTİ N KOYUNCU	SALİH	0/1				
			SELİME ŞİRİN	SALİH	0/1				
			HATİCE DİNÇER	SALİH	0/1				
			SELVER DURU	SALİH	0/1				

			AYŞE KİPER	SALİH	WHOLE				
Yahya lı	Çamlıca	156/80	ALİ RIZA ERDEMİR		WHOLE	FIELD	6681.00	475.02	ROAD
Yahya lı	Çamlıca	156/81	OSMAN KOYUCU	SALİH	0/1	FIELD	9582.00	1577.89	ROAD
			NİZAMETTİN KOYUNCU	SALİH	0/1				
			SELİME ŞİRİN	SALİH	0/1				
			HATİCE DİNÇER	SALİH	0/1				
			SELVER DURU	SALİH	0/1				
			AYŞE KİPER	SALİH	WHOLE				
Yahya lı	Çamlıca	156/82	RAMAZAN KOYUNCU	DEMİR ALİ	1/9	FIELD	3971.00	34.18	ROAD
			SELVER KİPER	DEMİR ALİ	1/9				
			KAZİM KOYUNCU	DEMİR ALİ	1/9				
			ADNAN KOYUNCU	DEMİR ALİ	1/9				
			HAYRİYE İNCECİ	DEMİR ALİ	1/9				
			KADİRE EKİM	DEMİR ALİ	1/9				
			ALİ OSMAN KOYUNCU	DEMİR ALİ	1/9				
			SONER KOYUNCU	DEMİR ALİ	1/9				
			AHMET KOYUNCU	DEMİR ALİ	1/9				
Yahya lı	Çamlıca	156/87	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	7450.00	791.99	ROAD
Yahya lı	Çamlıca	156/88	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	14500.00	854.07	ROAD
Yahya lı	Çamlıca	156/92	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	40500.00	296.04	ROAD
Yahya lı	Çamlıca	157/90	MALİYE HAZİNESİ		WHOLE	VIRGIN SOİL	9700.00	275.73	ROAD
Yahya lı	Çamlıca	157/91	KADRİYE AYDIN	HASAN	WHOLE	FIELD	77500.00	430.61	ROAD
Yahya lı	Çamlıca	157/1	COMMON PROPERTY		WHOLE	PASTURELAND	1061356.12	41035.23	ROAD AND TURBINE AREA
Yahya lı	Çamlıca	157/3	EMİNE AYDIN		WHOLE	FIELD	11450.00	1388.22	ROAD

Yahya lı	Çamlıca	157/6	İBRAHİM SAPMAZ	MEHME T	WHOLE	FIELD	4200.00	14.35	ROAD
Yahya lı	Yenice	665/41 8	COMMON PROPERTY		WHOLE	PASTURELAND	1285212. 00	58327.25	ROAD AND TURBI NE AREA
Yahya lı	Yenice	665/51 0	COMMON PROPERTY		WHOLE	PASTURELAND	2991638. 00	10338.38	ROAD
Yahya lı	Yenice	684/1	COMMON PROPERTY		WHOLE	PASTURELAND	8641686. 00	109395.3 0	ROAD AND TURBI NE AREA

V.1.12.1. Minimizing the loss of pasture areas in the project area and ensuring that the pasture passageways are not closed during the works,

In the property analysis studies carried out within the scope of the project, It has been determined that part of the project area is forest, part is pasture, and a small part is from the fields that have property in the field. Most of the pastures identified in the project area are from the Çamlıca neighborhood, and a small number of them are from the Yenice neighborhood. During the project planning, All necessary measures shall be taken in order to minimize the loss of pasture areas in the area and to ensure that the pasture passageways are not closed during the works. In the latest arrangements made in the project, By trying to match the route to the existing roads as much as possible, especially on the power plant site access roads, It has been tried to pass both pasture and forest structure with minimum destruction. The road routes of the herds, which are engaged in grazing activities in the rangelands in the region, especially in the spring-summer period, shall be protected by mutual agreement with the shepherds and the owner of the activity, and the necessary transit facilities shall be provided.

In general, the power plant areas built on pasture and agricultural lands are basically built on an average of 20mx20m foundation construction. It has to get the allocation and permission of the areas to be used during assembly and construction. With the completion of the construction phase, the lands used in the power plants that entered the operation phase are cleaned and restored. Although the pasture areas are allocated as WPP areas, the local people can continue to use the actually allocated areas as pasture areas. In this context, there is little deterioration and loss in pasture areas. When the WPP fields, which have quite a lot of applications in Turkey, are examined, It is seen that the activities of two different sectors (agriculture-energy) together make a great contribution to the economy in the power plants that have been put into operation.



Figure V.1.12.1. Common Use Examples in Pasture and Agricultural Lands



Figure V.1.12.1.2. Field Use in Wind Plants and the Example of Establishing Friendly with Current Use

V.1.13. The types and numbers of trees to be cut in order to prepare the land and to provide the necessary land for the construction site, , stand type, its density , the effects of the trees to be cut on the forest ecosystem in the region, the necessary permits, authority

reviews , the distance to the forest areas if the project or a part of it is outside the forest area, evaluation of the effects, measures to be taken,

Within the scope of the project, An application has been made to the General Directorate of Forestry for the EIA Forest Examination Evaluation Form and its opinion and A Forest Examination Evaluation Form has been prepared by the Kayseri Regional Directorate of Forestry. (See Annex: 8) According to the Forest Survey Evaluation Form, A part of the project area is affiliated to the Kayseri Regional Directorate of Forestry. It has been determined that 70.93 hectares of land within the borders of Kayseri Oman Operation Directorate and Yahyalı Forestry Operations Directorate are within the borders of the forest area to be subject to the permit. The operation type of the stand is in the form of normal and degraded grove and treeless forest soil; It has been reported "stand types BMAr-T (Spoiled Oak, Juniper-stony), BArM (Spoiled Juniper Oak), BM(Spoiled Oak) Gc1-T (Fir-stony) OT-T (woodless forest soil stony) OT (woodless forest soil), S (stony), A (agriculture) and Mab2 (oak)". Forest Management and Stand Map is given in the appendix of the Forest Review Evaluation Form. (See Annex: 8) In the examination carried out by the Kayseri Regional Directorate of Forestry, It has been found that it is not conservation forest of the demand area, gene protection area, research forest reserved for scientific studies, Research station, research trial areas, urban forests, Endemic and Rare Ecosystem areas to be Protected, Seed Stand, National Park, Game Wildlife, Game Spawning Area, Tourism area.

Regarding the Erciyes WPP project, The revenue and increment calculations according to the stand types are given below.

Table.1.13.1. Wealth and Number of Trees in Hectare by Stand Types

Stand Type	BArM	BMAr	BM
Area (m ²)	210.064,000	14.540,000	7.249,000
Area (ha)	21,01	1.45	0.72
Volume(Revenue)	6.000 m ³ Ar, 4.000 m ³ M=10.000 m ³ /ha	6.000 m ³ M 4.000 m ³ Ar=10.000 m ³ =14.500 m ³	8.000 m ³ /ha M 0.72 ha x8000 m ³ =5.760 m ³
Number of trees	Not Specified	Not Specified	Not Specified
Increment	0.150m ³ /ha 0.15 x 21.01=3.15 m ³	0.150 m ³ /ha 0.150 x1.45=0,22 m ³	0.200m ³ /ha 0.200 x0.72=0.144 m ³

The number of trees is not specified in the tables in Yahyalı Business Chief's Stand Types Introductory Tables. The sections outside the areas specified in the table are nicknamed OT (Treeless Forest Soil). In this context, the number of trees could not be calculated exactly. Cutting of trees in the predominantly Decayed Oak and Juniper stands coinciding with turbine locations, access road and switchyard in the project, shall be included in the project and it shall be carried out in accordance with the Forest Permit.

One of the possible impacts of the project on forest areas is possible forest fires. All measures shall be taken to prevent possible forest fires during the construction phase of the project. Some of these measures are as follows;

-The personnel to work during the construction phase shall not be allowed to light a fire in the open air in any way.

-Necessary warning signs shall be kept within the project area in order to prevent the personnel who will work during the construction phase from throwing out unextinct cigarettes and matches.

- Bottles and glass shards shall not be thrown into forested areas and dry grass areas.

-In Construction Phase of the Project, All necessary protective measures shall be taken against possible forest fires. Fire extinguishing tubes and materials (rake, ax, bucket, etc.) shall be available at the construction site against possible fires.

It shall be complied with the Communiqué No. 285 "Implementation Principles in the Prevention and Extinguishing of Forest Fires", which entered into force on 01.01.1995. In case of forest fires in the project area and its immediate surroundings, Alo Fire hotline numbered 177 will be called immediately, The Directorate of Forestry Operations shall be notified and construction site personnel shall be given work to respond to possible fires when necessary.

V.1.14 Types of fuels to be used in works to be carried out from the preparation of the land to the comissioning of the units, their properties, emissions to occur,

During the construction phase of the project, there shall be emissions as a result of the work of construction equipment in the field. No. 2 diesel oil shall be used as fuel in the work machines used in the field, and the general characteristics of the diesel are given below.

Table V.1.14.1. General Characteristics of Diesel

FEATURES	No:1	No:2	No:4	No:5	No:6
Naming	Gas Oil	Motorin	Marin Dizel-Oil	Medium Fuel-	Heavy Fuel-Oil
Consistency	Very Fluent	Very Fluent	Easy Fluent	Medium Fluent	Heavy Fluid
Type	Distilled	Distilled	Very Light Residual	Very Light Residual	Very Light Residual
Colour	Light	Amber	Black	Black	Black
Density (15°C) g/cm ³	0,8251	0,8654	0,9279	0,9529	0,9861
Viscosity (38°C)	1,6	2,68	15,0	50,0	360,0
Pour Point (°C)	-18,0	-18,0	-12,0	0,0	18,0
Atomization Temperature(°C)	Atmospheri	Atmospheri	-4,0	54,0	93,0
Pumping Temperature (°C)	Atmospheri	Atmospheri	-9,0	1,0	38,0

Carbon Residues (%)	trace	trace	2,5	5,0	12,0
Sulfur (%)	0,1	0,4-0,7	0,4-1,5	max. 2,0	max. 2,8
Oxygen-Nitrogen (%)	0,2	0,2	0,48	0,7	0,98
Hydrogen (%)	13,2	12,7	11,9	11,7	10,5
Carbon (%)	86,5	86,4	86,1	85,55	85,70
Water and Precipitate (%)	trace	trace	max 0.5	max 1.0	max 8.0
Ash (%)	trace	trace	0.02	0.05	0.08
Heat Value (kcal/lt)	9,121	9,387	9,720	9,863	9,986

(Source: TMMOB Chemical Eng. room,1991)

Assuming that the work machines work cumulatively in the project, Fuel consumptions have been calculated and emission calculations have been made accordingly:

Table V.1.14.2. Construction Equipment and Engine Powers to be Used During the Construction of the Project

Equipment to be Used	Number	Engine Power (hP)*	kW	Daily Working Time (hours)
Concrete Mixer	1	120	89,52	8
Loader	1	150	111,9	8
Crawler Dozer	1	120	89,52	8
excavator	1	150	111,9	8
Truck	5	120	89,52	8
Crane	2	130	96,98	8
Generator	1	30	22,38	8
Welder	5	30	22,38	8
Water tank	2	120	89,52	8

*Hp: Horse power = 0,746 kw

Table V.1.14.3. Exhaust Gas Contaminants of Heavy Diesel Vehicles (EPA (Environmental Protection Agency) Standards)¹

Motor power	CO (g/Kwh)	NMHC (g/Kwh)	NMHC+NO _x (g/Kwh)	NO _x (g/Kwh)	PM (g/Kwh)
56 ≤ kW < 130 (75 ≤ hp < 175)	5.0 *	0.19 *	-	0.40 *	0.02 *
130 ≤ kW ≤ 560 (175 ≤ hp ≤ 750)	3.5	0.19	-	0.40	0.02

* Selected Values

¹ <https://www.dieselnet.com/standards/us/nonroad.php>

Accordingly, The amount of exhaust gas pollutants likely to originate from vehicles and work machines are given in the table below.

Table V.1.14.4. Carbon monoxide (CO) Emissions from Vehicles and Construction Equipment

Equipment to be used	Pollutant Amount Calculation (kg/hour)	Total (kg/hour)
Concrete Mixer (transmixer)	$89,52 \text{ kW} \times 5 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,45}$	6,608
Loader	$111,9 \text{ kW} \times 5 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,56}$	
Crawler Dozer	$89,52 \text{ kW} \times 5 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,45}$	
excavator	$111,9 \text{ kW} \times 5 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,373}$	
Truck	$89,52 \text{ kW} \times 5 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{2,24}$	
Crane	$96,98 \text{ kW} \times 5 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,97}$	
Generator	$22,38 \text{ kW} \times 5 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,11}$	
Welder	$22,38 \text{ kW} \times 5 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,56}$	
Water tank	$89,52 \text{ kW} \times 5 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,895}$	

Tablo V.1.14.5. Hydrocarbon (HC) Emissions from Vehicles and Construction Equipment

Equipment to be used	Pollutant Amount Calculation (kg/hour)	Total (kg/hour)
Concrete Mixer (transmixer)	$89,52 \text{ kW} \times 0,19 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,017}$	0,3156
Loader	$111,9 \text{ kW} \times 0,19 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0213}$	
Crawler Dozer	$89,52 \text{ kW} \times 0,19 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,017}$	
Excavator	$111,9 \text{ kW} \times 0,19 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0213}$	
Truck	$89,52 \text{ kW} \times 0,19 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,085}$	
Crane	$96,98 \text{ kW} \times 0,19 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,034}$	
Generator	$22,38 \text{ kW} \times 0,19 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,043}$	
Welder	$22,38 \text{ kW} \times 0,19 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,043}$	
Water tank	$89,52 \text{ kW} \times 0,19 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,034}$	

Table V.1.14.6. Nitrous Oxide (NOx) Emissions from Vehicles and Construction Equipment

Equipment to be used	Pollutant Amount Calculation (kg/hour)	Total (kg/hour)
Concrete Mixer (transmixer)	$89,52 \text{ kW} \times 0,4 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,035}$	1,14
Loader	$111,9 \text{ kW} \times 0,4 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,045}$	
Crawler Dozer	$89,52 \text{ kW} \times 0,4 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,035}$	
Excavator	$111,9 \text{ kW} \times 0,4 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,045}$	

Equipment to be used	Pollutant Amount Calculation (kg/hour)	Total (kg/hour)
Truck	$89,52 \text{ kW} \times 0,4 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,179}$	
Crane	$96,98 \text{ kW} \times 0,4 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0776}$	
Generator	$22,38 \text{ kW} \times 0,4 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0009}$	
Welder	$22,38 \text{ kW} \times 0,4 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0009}$	
Water tank	$89,52 \text{ kW} \times 0,4 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,072}$	

Table V.1.14.7. Dust (PM) Emissions from Vehicles and Construction Machinery

Equipment to be used	Pollutant Amount Calculation (kg/hour)	Total (kg/hour)
Concrete Mixer (transmixer)	$89,52 \text{ kW} \times 0,02 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0018}$	0,577
Loader	$111,9 \text{ kW} \times 0,02 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0022}$	
Crawler Dozer	$89,52 \text{ kW} \times 0,02 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0018}$	
Excavator	$111,9 \text{ kW} \times 0,02 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0022}$	
Truck	$89,52 \text{ kW} \times 0,02 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,009}$	
Crane	$96,98 \text{ kW} \times 0,02 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0038}$	
Generator	$22,38 \text{ kW} \times 0,02 \text{ g/kWh} \times 1 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,00045}$	
Welder	$22,38 \text{ kW} \times 0,02 \text{ g/kWh} \times 5 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,00045}$	
Water tank	$89,52 \text{ kW} \times 0,02 \text{ g/kWh} \times 2 \text{ adet} \times 1 \text{ kg/1000 g} = \mathbf{0,0036}$	

The calculations made above have been made with the assumption that vehicles and work machines work at the same time. However, The vehicles and work machines in question shall be used at different times and in different places during the day. Therefore, The cumulative pollutant emissions calculated in the table shall actually be much less.

Table V.1.14.8. Comparison of Mass Flow Rates with Limit Values given in SKHKKY

Emissions	Total Mass Flow (kg/hour)	Mass flow rates (kg/h) for operating hours in normal operating conditions and weekly working days, Outside Chimney	Conclusion
Dust (PM)	0,577	1	Below Limit Value
Carbon Monoxide (CO)	6,608	50	Below Limit Value
Nitrogen Dioxide [NO _x (in NO ₂)]	1,14	4	Below Limit Value
Total Organic Compounds (HC)	0,3156	3	Below Limit Value

The above calculations have been made with the assumption that equipments and work machines work at the same time. However, the equipments and work machines in question shall be used at different times during the day. Therefore, the cumulative pollutant emission amounts calculated in the table shall actually be much less.

Exhaust emission inspections of the construction machinery and vehicles to be used shall be carried out regularly and It shall be documented that they provide the limit values determined for exhaust emissions. In addition, for the exhaust gases of the vehicles, It shall be complied with "Regulation on Exhaust Gas Emission Control and Gasoline and Diesel Quality", published in the Official Gazette dated 30.11.2013 and numbered 28837 and the provisions of the "Exhaust Gas Emission Control Regulation", published in the Official Gazette dated 11.03.2017 and numbered 30004.

V.1.15. The construction site to be established for the personnel, starting from the preparation of the land until the commissioning of the units and Where and how other technical/social infrastructure needs shall be provided,

In the construction works to be carried out in the field of activity, It is planned to employ 40 personnel. During the construction phase of the project, a 500 m² prefabricated type temporary construction site shall be established adjacent to the switchyard, in order to meet the needs of the workers.

During the construction phase, It shall be established as portable container construction site units etc. to meet the accommodation needs of the workers. In the operation phase, the container units shall be dismantled and removed and Existing administrative units shall continue to be used. The coordinates of the construction site are given in ANNEX:1 and are processed in the Layout Plan presented in ANNEX:3.

V.1.16. Works that are risky and dangerous for human health and the environment, from the preparation of the land until the commissioning of the ,

Among the accident risks that may arise from the technology and materials to be used in the construction phase of the project, There may be some accidents arising from the carelessness of the personnel to be employed and possible accidents that may arise from the failure to carry out the necessary maintenance and repair works of the machinery and equipment on time.

For measures to be taken against accidents that may occur in the field of activity during the construction phase, It shall be complied with The provisions of the "Work Safety Regulation in Construction Works". Within the scope of this regulation;

- Construction works shall be carried out during daylight hours, and the work area shall be suitably lighted in cases where it is necessary or obligatory to work in the dark or at night.

-The materials used in the construction works shall be of sufficient quality and strength and a protective cap (hard hat), phosphorescent vest and steel-toed work boots shall be given to The workers.

- The perimeter of the construction area shall be appropriately delimited and visibly warning signs shall be placed at these boundaries.

- Despite the precautions taken during the construction works, Necessary first aid materials shall be kept in the construction site against possible accidents and One vehicle shall be available in the activity area at all times during working hours, in order to take the casualty to the nearest health facility.

Since it shall be possible to communicate by telephone in the Plant, necessary help can be requested from the nearest health institution in an emergency that may occur as a result of an accident. A first aid cabinet shall be available in the facility for first aid interventions. There shall be a security guard waiting day and night at the facility. In case of sabotage, explosion, natural disaster, accident, fire; Necessary training shall also be given on the necessary first aid interventions and civil defense measures and response functions to establish the necessary contacts by telephone and in a possible situation.

V.1.17. Determining the severity of the effects on the material and the dispersal effect on the cultural and natural assets (Traditional urban fabric, archaeological remains, natural values to be protected) located on the underground and above ground in the line route and its immediate surroundings,

(Commitment to inform the nearest museum directorate, village headman or local authority),
If any cultural property is detected during the preparation of the land and during the construction phase of the project, the works shall be stopped according to the 4th article of the law numbered 2863)

Within the scope of the project, Opinion was received from the Ministry of Culture and Tourism, Regional Board of Conservation of Cultural Heritage (See Appendix: 15) In the opinion of the Regional Board of Protection of Cultural Heritage;

It has been stated that Turbine location and measurement mast locations marked as T4 and T5 on the attached 1/25.000 scale map, in the archive file examination of the directorate regarding 25 turbines, measuring poles and switchgear, are located on Zebil Tepe Yazılı Rock and Mound, which was registered as a first degree archaeological site with the decision of the Conservation Board dated 20.11.2014 and numbered 1300, and Elma Mound, which was registered as a first degree archaeological site with the decision of the Conservation Board dated 12.01.2017 and numbered 2456. It is understood that it is located on the immovable whose ownership is registered in the name of the public common property (pasture) with no. 665, parcel number 419. Although the turbine and measuring mast locations marked as T4 and T5 on the attached map are not on the registered areas as a First Degree Archaeological Site, it has been reported that they should be evaluated by the Kayseri Cultural Heritage Preservation Regional Board for planting the turbines on the same parcel, since they are located on the same parcel. In this context, the examination of the project area turbine locations and measurement pole locations by the Kayseri Cultural Heritage Preservation Regional Board within the scope of the law numbered 2363 has been completed, Turbines and measuring poles, whose locations are marked with coordinates on the attached 1/25.000 scale map, are located outside the protected area, and there is no registration record as immovable cultural property that needs to be located. As a result of the surface examination carried out on the turbine and measurement

most locations by the experts of our Directorate, no immovable cultural property to be protected that could be included in the scope of the law numbered 2863 has been found. However, if any finds or remains are found during the possible excavation works to be carried out on the areas, the works should be stopped and the nearest museum directorate and the headman in the village or the local authority in other places should be informed, pursuant to Article 4 of the Law No. 2863. Within the scope of the project, There is no interaction between the project area and the mentioned cultural properties. The points specified in the opinion given by the Ministry of Culture and Tourism, Regional Board of Protection of Cultural Heritage shall be followed. If any cultural property is found during the construction works in the project area, the works shall be stopped and the nearest civil authority or the Museum Directorate shall be notified as per Article 4 of the Law No. 2863. The opinion of Kayseri Cultural Heritage Preservation Regional Board Directorate is presented in Appendix:15.

Within the scope of the project, opinions have been asked to Kayseri Directorate of Environment and Urbanization within the scope of natural assets and natural sites. In the opinion given by the Kayseri Provincial Directorate of Environment and Urbanization, It has been stated that there are no existing natural assets or natural protected areas identified and registered within the scope of the law numbered 2863. (See Annex: 14)

V.1.18. Other activities.

Waste oil and hazardous wastes shall be generated during the construction phase of the project. The calculation made with the assumptions that 19 construction machines shall be used during the construction phase and that each machine has an average oil capacity of 5 liters and that this oil is changed on average every 3 months is as follows.

Waste oil amount = $19 \times 5 \text{ lt} \times 4$ (number of changes per year) = 380 lt/year waste oil amount is formed. Since these operations are carried out at licensed fuel stations, there is no waste oil generation in the activity area.

During the activity, Maintenance, repair, oil and filter changes of construction equipment and transportation vehicles shall be carried out at licensed fuel stations. However, in unforeseen (breakdown, etc.) cases, Minor repairs shall be carried out on the field in reinforced concrete areas by informing the authorized services. During these repairs, In case of waste oil or oily wastes, these wastes shall be collected in containers and delivered to licensed waste disposal facilities by licensed transportation vehicles authorized by the Ministry of Environment and Urbanization.

The waste codes and amounts of these wastes are given in the table below.

Table V.1.18.1. Waste Oils and Amounts to Be Formed During Construction

Waste Code	Waste Code	Waste Code	Waste Code
15 Waste Packaging; Absorbents not otherwise specified, Wiping Cloths, Filter Materials And Protective Clothing			
13 01 13* (A)	Other hydraulic oils	380 lt/year	Waste oils released as a result of oil changes shall be moved away from the field with licensed vehicles without being stored and kept in the field. Leakproof and sealed containers shall be used to prevent waste oils from coming into contact with the receiving environment.
13 02 08* (A)	Other engine, transmission and lubricating oils		

During the maintenance, repair and lubrication etc. processes of the machinery and equipment to be operated in the field during the construction phase, Hazardous packaging, oily oak, empty lubricating oil cans, oily gloves etc. are expected to be released. Since these wastes are qualified as hazardous waste, they shall be placed on the Sealed floor and collected in containers and delivered to licensed waste disposal facilities by licensed transportation vehicles authorized by the Ministry of Environment and Urbanization.

The waste codes and amounts of these wastes are given in the table below.

Table V.1.18.2 Hazardous Wastes to Be Occurred During Construction and Their Quantities

Waste Code	Waste Code	Waste Code	Waste Code
15 Waste Packaging; Oakum not otherwise specified, Wiping Cloths, Filter Materials And Protective Clothing			
15 01 10* (M)	Packages containing residues of dangerous goods or contaminated with dangerous substances	50 kg/year	According to the Waste Management Regulation, they shall be collected in containers to be placed on a leakproof ground and shall be delivered to licensed waste disposal facilities by licensed transportation vehicles authorized by the Ministry of Environment and Urbanization.
15 02 02* (M)	Oakum contaminated with hazardous substances, filter materials (oil filters unless otherwise specified), cleaning cloths, protective clothing	50 kg/ year	
TOTAL		100 kg/ year	

The food needs of the personnel to work during the construction and operation phases of the project shall be met by the catering company with which the agreement is made. For this reason, There shall be no vegetable waste oil formation in the project site. If the meals are

to be cooked in the facility cafeteria, The vegetable waste oils shall be collected in closed containers. According to the provisions of the "Regulation on Control of Waste Vegetable Oils", which came into force by being published in the Official Gazette dated 06.06.2015 and numbered 29378, It shall be given to recycling companies licensed by the Ministry of Environment and Urbanization. Documents received from recycling companies shall be kept for 5 years to be submitted to the authorities.

Annual vegetable oil consumption per capita in our country is 21 lt (Ministry of Environment and Urbanization, General Directorate of Environmental Management, Waste Vegetable Oil Management Booklet). Assuming that 50% of this returns as waste oil, the waste oil production per person is determined as approximately 10 liters.

Table V.1.18.3. Code and Amount of Waste Vegetable Oil Expected to be Occurred During Construction

Waste Code	Waste Code	Waste Code	Waste Code
<i>20 Municipal Wastes Including Separately Collected Fractions (Domestic Wastes And Similar Commercial, Industrial And Institutional Wastes)</i>			
20 01 25	Edible oil and fat	40 x 10 lt.person/year 400 lt/ year	It shall be collected in closed containers and given to recycling companies licensed by the Ministry of Environment and Urbanization in accordance with the provisions of the Regulation on the Control of Waste Vegetable Oils.

In the project; it shall be complied with “Waste Management Regulation”, which entered into force after being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016), “Regulation on Control of Waste Vegetable Oils” which entered into force by being published in the Official Gazette dated 06.06.2015 and numbered 29378 and The provisions of the “Regulation on Control of Waste Oils”, which entered into force after being published in the Official Gazette dated 30.07.2008 and numbered 26952 (Amended: OG-5/11/2013-28812).

V.2. Activities in the Operational Phase of the Project, Its Effects on the Physical and Biological Environment and Measures to be Taken,

V.2.1. Features, dimensions, capacities, etc. of the activity units. other informations

Through 25 wind turbines with a capacity of 2.6 MWm/2.6 MWe planned to be installed in the project, It is planned to produce 227,500,000 kWh/year energy per year. Electricity produced shall be transferred to the national network by making Input-Output with a connection line of approximately 1 km to the 154 kV Çamlıca 1 HEPP TM-Yeşilhisar TM Energy Transmission Line, which is located in the east of the field.

Within the scope of the project, VESTAS V100-2.6 MW turbine shall be used. The technical details of the turbines are given below.

Rotor type: 3-blade rotor with horizontal axis
Power Management: Active slope control system regulated at different speeds
Rated power: 2.6 MW
Activated wind: 3 m/s
Nominal wind speed: 12.5 m/s
Deactivation wind: 23 m/s
Wind Class: IEC IIB
Standard Operating Temperature: -20 to 40 °C
Rotor Diameter: 100 m
Rotor Sweeping Area: 7,854 m²
Wing length: 49 m
Tower Type: tubular steel tower
(Hub)Tower height: 80 m
Frequency: 50Hz
Generator type: four pole double fed generator
Nacelle (Head) Width/Length: 9.65 /3.65 m

Table V.2.1.1. Dimensions, capacity and ownership of Activity Units

Unit	Height (m)	Property Status	Its capacity
T1 Turbine	1816	Pasture	2,6 MW
T2 Turbine	1860	Pasture	2,6 MW
T3 Turbine	1787	Pasture	2,6 MW
T4 Turbine	1748	Forest - Pasture	2,6 MW
T5 Turbine	1732	Forest - Pasture	2,6 MW
T6 Turbine	1975	Pasture	2,6 MW
T7 Turbine	1947	Forest - Pasture	2,6 MW
T8 Turbine	1892	Forest	2,6 MW
T9 Turbine	1820	Forest	2,6 MW
T10 Turbine	1800	Forest	2,6 MW
T11 Turbine	1767	Forest	2,6 MW
T12 Turbine	1751	Forest	2,6 MW
T13 Turbine	1745	Forest	2,6 MW
T14 Turbine	1740	Forest	2,6 MW
T15 Turbine	1759	Pasture	2,6 MW
T16 Turbine	1910	Forest	2,6 MW
T17 Turbine	1870	Forest	2,6 MW
T18 Turbine	1840	Forest	2,6 MW

T19 Turbine	1843	Pasture	2,6 MW
T20 Turbine	1828	Pasture	2,6 MW
T21 Turbine	1800	Pasture	2,6 MW
T22 Turbine	1760	Pasture	2,6 MW
T23 Turbine	1778	Pasture	2,6 MW
T24 Turbine	1799	Pasture	2,6 MW
T25 Turbine	1812	Pasture	2,6 MW
Switchyard	1711	Forest	2,6 MW

The radius of the foundation area of the turbines to be built within the scope of the project is approximately 9.5 meters. It is found as $\pi \times r^2 = 3.14 \times 9.5^2 = 283.385 \text{ m}^2$. Within the scope of the project, the total seating area for a total of 25 turbines is approximately $283.385 \text{ m}^2 \times 25 = 7.085 \text{ m}^2$. Within the scope of the project, approximately 6.000 m² of switchgear, administrative buildings and social facilities (Dormitory, Dining Hall, Washbasin and Showers, etc.) shall be constructed in the switchyard area selected as 31,044 m². In the construction phase, in order to store the excavation wastes and topsoil emerging during the foundation excavations and vegetative soil stripping works, 7 Excavation Areas with an area of 3.000 m² and 7 Vegetative Soil Stock areas with an area of 10.000 m² have been selected. The resulting excavation and vegetative soil shall be stored separately in the storage areas without being mixed with each other. Within the scope of the project, in-plant roads shall be constructed in order to provide transportation between the turbines. The choice of road routes has been made over the existing roads. In some places, new places shall be opened and some arrangement works shall be carried out. The total length of the roads is planned to be approximately 48 km and an average width of 10 meters.

In the construction of the project, according to the turbine type, The dimensions of the platform where the turbine tower and blade assembly are made are determined by the turbine supplier companies. Platform areas shall be created based on the data of the wind turbine manufacturer selected by the investor.

V.2.2. What actions shall be taken for the maintenance of the Wind Power Plant and Energy Connection Lines, materials to be used, the type and amount of waste to be produced, features, dimensions, characteristics and how to dispose of them (Giving information about the maintenance frequency of turbines, wastes to be generated and their disposal),

Periodic maintenance:

All of the maintenance works that are repeated at regular intervals in accordance with the recommendation and procedure of the manufacturer can be gathered under the name of

"Periodic Maintenance". These studies cover lubrication, system tests and controls, equipment that needs to be changed, and cleaning. Periodic maintenance of turbines shall be carried out every 12 months. At this stage, oil filters, cabin dust filters and troublesome batteries are replaced. Rotating equipment is greased. Cleaning is done. Technical measurements and functional tests are made.

Lubrication: One of the most important factors that directly affect the life of the machine is lubrication. It covers the operations of lubricating the main bearing, gearbox, blade, generator, absorber and coupling connections, which are exposed to high static and dynamic loads, with appropriate lubricants, in appropriate amounts, at appropriate intervals, analyzing the oils of the hydraulic unit and gearbox periodically and changing them in a timely manner. The repair time of the smallest malfunction that may occur in the system due to the lubrication problem can be expressed as a few days or even a few months instead of a few hours. It is obvious that the production losses during this period will be high.

System Tests: It covers Hydraulic system, pitch connections, rotor - blade control mechanisms and electrical tests. Controls to be made on these equipments that control the system

- Control of fasteners
- Control of temperature sensors
- Heater-cooler controls
- Pressure controls
- Anemometer-windvane controls
- Approach angles (offset) controls
- Capacitor controls
- Control of speed protection systems

It is the process of testing the functions of all equipment that ensures healthy operation, such as the control of emergency stop buttons. Some of these systems, which are all checked and tested in periodic maintenance, should be visually checked when going up to the turbine in case of possible malfunctions.

Fault Maintenance:

As in every system, there are especially electronic equipment in wind power plants that cannot be predicted when they fail. In order to minimize production losses in case of failure:

- Having a very good news system
- Equipment that is likely to fail is available in stock,
- Having the knowledge and documents that determine the source of the malfunction as soon as possible,

-It is essential to have the tools you need ready for use in order to fix the fault.1

Wind turbine operation and maintenance services are generally provided by turbine supplier companies, The teams that the company will establish within this scope can also carry out maintenance and repair works.

Gear oil for main gearbox

Gear oils for auxiliary gearboxes

Synthetic oil for hydraulic systems

Synthetic grease for main rotor, blade angle and directional bearings

Synthetic greases are used for generator bearings.

Due to the synchronous structure and technology of the turbines in the maintenance of the turbines, some waste oil and hazardous wastes such as oil filters, cleaning cloths shall be generated.

The maintenance and repair works shall be supported by the manufacturer company, which provides technical support in the Erciyes WPP project. The wastes generated during the maintenance and repair works at other wind power plants belonging to the operator are given below.

Wastes	Amount
130113 Other Hydraulic Oils	300 kg
150110 Packages containing Residues of Dangerous Goods or contaminated with dangerous goods	10 kg
150202 Coded oakums contaminated with dangerous substances, filter materials (oil filters unless otherwise specified), cleaning cloths, protective clothing	500 kg
160601 Coded Leaded Batteries	1126 kg
Oil mixtures and grease from oil and water separation other than 190810 190809	87 kg
200121 fluorescent lamps and other mercury-containing waste	5 kg
160107 Coded Oil Filters	500 kg

There is no storage of waste oils and other hazardous wastes in the project. During the oil changes to be carried out in 6-month periods, the waste oils shall be taken into sealed containers and given to the disposal facilities licensed by the Ministry of Environment and Urbanization by licensed transport vehicles without waiting in the field. Documents taken from disposal facilities shall be kept to be shown to the authorities. Since oil changes are carried out indoors in the turbine, There is no contact with the receiving environment such as soil and water.

The transformer oil used in the transformer station can be used under normal conditions without losing its properties until the end of the service life of the transformer station and power transmission line. In this context, Periodic oil changes are not made for transformers. In order for waste oil to occur in transformers, either a fault must occur in the transformer and the oil must leak out, or if any abnormality is detected in the transformer oil, the oil needs to be changed. There is no oil change for any reason other than these situations. The probability of this happening is very low. If waste transformer oil is produced for any similar reason, action shall be taken in line with the provisions of the Waste Management Regulation, after determining the waste code and category of the waste oil and whether it contains PCBs (Indicator Polychlorinated Bifen).

In the case of oil change , the waste oil that will come out of the transformer center shall be around 20 liters maximum. Since transformer oil is very expensive, it is a sought-after material for recycling. The changed transformer oil shall be delivered to licensed waste disposal facilities by licensed transport vehicles in a closed system without being stored. Documents taken from disposal facilities shall be kept to be shown to the authorities.

An impermeable, covered Temporary Waste Storage area will be constructed in the project area and shall be used during the construction and operation phases.

Hazardous Wastes shall be temporarily stored for less than 6 months in accordance with the criteria determined according to their types at the place where they are produced within the scope of Article 13 of the Waste Management Regulation, shall be classified according to their characteristics. On the temporarily stored waste, there shall be a hazardous or non-hazardous waste inscription, the waste code, the amount of waste stored and the date of storage. In this context, The temporary waste storage area determined within the scope of the project is shown in ANNEX-3 in the Layout Plan. The wastes shall be stored temporarily so that they do not react with each other. The areas/containers where the hazardous waste is temporarily stored/will be stored by the waste producers producing less than one thousand kilograms of hazardous waste per month as specified in the Waste Management Regulation are exempt from the temporary storage permit. In accordance with the provision, waste producers who produce one thousand kilograms or more of hazardous waste per month obtain a temporary storage permit from the provincial directorate for their temporary storage areas/containers, Temporary storage permission shall be obtained from the provincial directorate,for temporary storage areas, if the waste is more than 1,000 kg. In case of a change in the temporary storage area, the temporary storage permit shall be renewed.

V.2.3. Electric and magnetic fields and their intensity, effects, precautions to be taken,

The main sources of very low frequency (ELF - Extremely Low Frequency) fields are; High Voltage Lines (HVL), building electrical installations, transformers, electrical devices such as hair dryers and washing machines used in homes. It should be particularly noted here that; In terms of choosing the device or mode to be used when measuring electromagnetic

field, it is necessary to distinguish which ELF-induced fields are especially magnetic field sources and which ones are electric field sources. While the magnetic field is formed due to the passage of electric current, the electric field is formed by the accumulation of electric charges in one place (this accumulation is expressed by the electric potential difference). While most household appliances are sources of magnetic fields, electrical networks are sources of electric fields, but they also become sources of magnetic fields due to current flow. In the close field interaction with the ELF field around the human body, the body can disrupt the electric field but not the magnetic field. However, both areas create different electric field and current induction in different parts of the body. Where very low (ELF) fields are severe enough, Electric fields and currents induced in tissues in the human body can cause effects such as nerve and muscle stimulations and numbness in the hands. If the surrounding electric and magnetic fields are very low, no effect is observed.

Legal regulations

Non-ionized EM fields emitted from electrical power systems and electrical devices can cause adverse health effects depending on their severity and duration of action. Therefore, for the protection of people from non-ionizing radiation, Countries are trying to protect the public from the negative effects that may arise with their unintentional exposure to EMR (Electromagnetic Radiation) by preparing regulations. National and international EMR exposure limits play an important role in controlling risk and avoiding situations that may be harmful to human health. Each country has set limit values according to its own standards for electromagnetic radiation emitted from High Voltage Lines. There are limit values that are commonly accepted and applied in many countries of the world, including the member states of the European Union and the USA. These limit values have been determined by ICNIRP (International Commission on Non-Ionizing Radiation Protection, an international commission also recognized by the World Health Organization (WHO). Limit values vary depending on the frequency of the emitted electromagnetic radiation. The 2010 limit values determined by ICNIRP for the general public at the 50 Hz frequency included in the ELF band are given below.

Table V.2.3.1. Electromagnetic Limit values (for ICNIRP - 50Hz)

Electromagnetic Pollution Source	Electric Field Strength (V/m)	Magnetic Flux Density (μ T)
High voltage lines, Transformers and Power units (for the general public)	5000	200

Regulations regarding EMR arising from High Voltage Lines have been determined by the regulation of the Ministry of Environment and Forestry published in the Official Gazette dated 24.07.2010 in our country. In previous years, there is no legal regulation on EMR originating from high voltage lines and transformers in Turkey.

High voltage lines and other electrical facilities are established in accordance with the "Electric Power Current Facilities Regulation" published in the Official Gazette dated 30.11.2000 and numbered 24246 by the Ministry of Energy and Natural Resources. Although this regulation has been prepared without considering the effect of EMR, It can be thought that the subject is indirectly addressed in the 5th, 6th and 7th Articles written below. In this regulation, the approach distance of the YGHs to the buildings is related to the oscillation of the line and does not cover the EMR effect. The relevant articles of this regulation are as follows.

Safety of high current installations:

Article 5 – High current installations must be constructed in a way that will not cause any harm and danger to life and property in any operating situation.

It must be impossible to touch the live parts (active parts) of high current installations at a distance that anyone can approach, even if carelessly and safety distances and protection measures specified in the following sections must be provided.

Observation of facilities sensitive to electromagnetic fields:

Article 6 – Electrical installations should be constructed in such a way that their effects on nearby facilities sensitive to electromagnetic fields are within permissible limits in the relevant standards.

The disturbing electric and magnetic fields created by the power plants should be weakened to remain within the permissible limits and should be cleared of high harmonics.

Conservation of nature:

Article 7 – In the design and construction of high current installations, If there are several solutions that are very close to each other in terms of technical and economic aspects, the solution that causes the least damage to the nature should be chosen.

The smallest horizontal distances between overhead line conductors and the most protruding parts of the structures they pass, which must be in the greatest swing position, is determined as 2m for 34.5kV lines, 4m for 154kV lines and 5m for 380kV lines in Article 44. In Article 46, where vertical distances are defined, it is deemed sufficient for the lines to be 8.7 m above the terraces and roofs of the houses.

It has been determined that even in the nearest 10 meters, the electromagnetic effect in the environment remains at a level that is almost non-existent in the analysis and measurement studies carried out by Prof Dr Osman Çerezci, Director of SAU Electromagnetic Research Center (SEMAM), in a similar wind power plant, during the operation of the turbines of the wind power plant. It has been determined that the

electromagnetic environment created by the WPP turbines when they are operating or not is not disturbed much and the natural level is preserved. With the studies carried out as an example, It has been determined that wind power plants shall not create any negative electromagnetic radiation disrupting the environmental habitat while operating.¹

V.2.4. Specifying how far and in which direction the electrical energy to be obtained within the scope of the project will be transmitted to the transmission line, (Giving information about electricity generation and transformer connection, at what voltage, at what distance and in which direction the electric energy to be obtained will be transported to the transmission line and examination according to the EIA Regulation),

The electrical energy produced in the project shall be transferred to the national grid by making an Input-Output line to the existing 154 kV Çamlıca 1 HEPP TM-Yeşilhisar TM Energy Transmission Line in the east of the site with a line of approximately 1 km.

Regarding the Energy Transmission Line; in the EIA Regulation, which entered into force by being published in the Official Gazette dated 25/11/2014 and numbered 29186 (Amendment: Official Gazette dated 26/5/2017 and numbered 30077), ANNEX - 2 List Article 40 - There is a threshold value for electrical energy transmission lines with a length of 5-15 km at a voltage of 154 kV and above. The connection line to be established with a length of 1 km is outside of the scope of the EIA Regulation.

V.2.5. Whether there are risks that may endanger safety (providing Bird migration routes, Ecological Assessment Report in the annexes),

In our country, high voltage lines and other electrical facilities etc. are established by the Ministry of Energy and Natural Resources in accordance with the Electric Power Current Facilities Regulation published in the Official Gazette dated 30.11.2000 and numbered 24246

Safety of high current installations:

Article 5 – The electric power installations must be constructed so as not to cause any damage to or constitute a danger on the human life and property under any kind of operation conditions.

It must be impossible to touch the parts of the electric power installations that are under voltage (active parts) at a distance that may be approached by anybody even if with lack of care and the safety distances and protection precautions indicated in the following chapters must be provided.

¹ WPP Electromagnetic pollution impact assessment -Electromagnetic field measurement and examination report, SAU. Electromagnetic Research Center (SEMAM) Director Prof. Dr. Osman Çerezci

Consideration of facilities which are sensitive to electromagnetic fields

Article 6 – The electrical installations must be constructed so that their effects on the facilities around them, which are sensitive against electromagnetic fields, must be within the permissible limits.

The disturbing electrical and magnetic fields formed by the energy installations must be attenuated so as to remain within the permitted limits and must be cleaned from high level harmonics.

Protection of nature:

Article 7 – In the design and construction of the electric power installations, in case there are a few solutions close to one another from the technical and economic points of view, the one that causes the least damage on the nature must be chosen.

In Article 44, The smallest horizontal distances between overhead line conductors and the most protruding parts of the structures they pass, which must be in the greatest swing position, is determined as 2 m for 34.5 kV lines, 4 m for 154 kV lines and 5 m for 380 kV lines. In Article 46, where vertical distances are defined, it is deemed sufficient for the lines to be 8.7 m above the terraces and roofs of the houses.

Within the scope of the project, It shall be followed "The safety precautions in the Electric Power Plants Regulation" and grounding shall be carried out.

Evaluation of the Project Site and Its Neighborhood in Terms of Bird Migration Routes

While the Main Bird Migration Routes between Africa and Europe pass over the main routes such as the Bosphorus, the Eastern Black Sea Region and Hatay in Turkey, the bird migration routes called "Sub-Bird Migration Route" spread over a much wider geography. In other words, It is possible to come across a migration route or migratory birds that fall under this definition in almost all parts of Turkey.

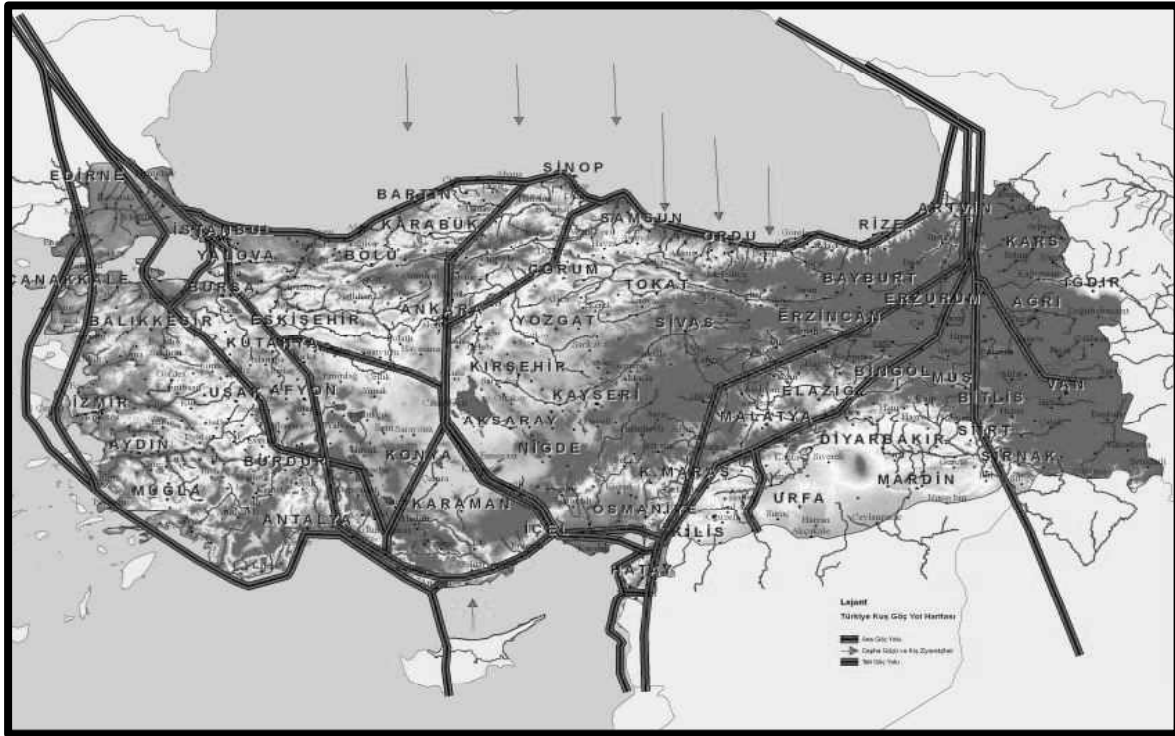


Figure V.2.5.1. Bird Migration Routes Passing Over Turkey and Project Area (Map L.Turan)

There are "front migrations" over Turkey, especially by some small-bodied and small-winged birds such as Quails (*Coturnix coturnix*) (Figure-V.2.5.1 Red arrows). In addition to all these, the existence of phenomena such as "migration shift", which defines the movements that occur differently from known migration routes and known migration periods, They are the components of a large-scale migration movement that takes place intensely in the spring and autumn periods within the airspace of our country.

Recently, There is an increasing activity in Turkey in terms of electricity generation from wind energy. By 2016 data, quite a large potential is waiting to be used as well in terms of obtaining energy from wind in our country, where the installed capacity of 152 licensed WPPs has exceeded 6100 MW (Türeb, 2017). In this context, as of the same dates, the installed power of WPPs under construction is around 861 MW. Apart from these numbers, many projects are in the evaluation phase.

Making use of wind, which is one of the most important clean and renewable energy, for this purpose, is of great importance for a country like Turkey with limited energy resources and high dependence on foreign sources. From this point of view, It turns out that wind energy turbines should be supported to the fullest. However, despite all these arguments, there are some important points that should not be overlooked. Perhaps the most important of these is that birds benefiting from the same natural resource as wind energy turbines should not be ignored.

Like Turkey; where is more than 500 bird species have been recorded within its borders (Turan, 2007, Kiziroğlu, 2008); which has wetlands on a national and international scale that can be considered important for birds, and in a geography where migration movements that can

be defined as “significant” take place, It is very important to consider the birds and migration routes in the process from the location selection of the said facilities to the installation phase. In this way, Without harming birds, which are an important component of nature and whose species and individual numbers are gradually decreasing, It shall be possible to use wind power plants, which are established by using large financial resources, without any problems and continuously.

LOCAL BIRD MIGRATION ROUTES AND ERCIYES - WPP PROJECT SITE LOCATION

As it is known, the most important risks can be exhibited on the birds when the wind turbines are in operation For this reason, When WPP and risks are evaluated together, the importance of where the project site is located becomes evident. As a result of the field studies and evaluations carried out by us on the presence of habitats close to the site that can be considered important for birds, or the migration routes passing over or close to the project site, and the interaction of the project area, It has been determined that there is no migration route defined as the “main migration route” passing through the project area or in the nearby areas. On the other hand, Migration movements are exhibited in the region with low density, that is, few species and large numbers of individuals belonging to species do not participate. In addition, Some internationally rare and protected bird species, such as the small vulture (Neophron percnopterus) in the region, are in the status of summer visitors and perform breeding activities close to the project site. (Little Vulture) This species alone puts the region in a position that can be described as "important" for birds. In areas where individuals of this species can be seen, Ornithological monitoring studies specific to the construction and operation periods can be carried out for this species only or for the entire region, and the actual situation of the species in the target area and what needs to be done, if necessary, can be revealed. Within the scope of the Erciyes WPP project, It is recommended to carry out ornithological monitoring during the construction period and the first year during the operation period, and during bird migration periods. (See Annex: 25)

V.2.6. The effects of the line and transformer on the facilities related to communication (PTT (Post and Telegraph Organization) lines, radio, TV transmitters, etc.),

The electromagnetic domain of wind turbines is very weak and terminates at the outer face of the turbine, remains almost 40-50 m above the ground level. Therefore, The electromagnetic effect of wind plants is not significant. Studies have shown that electromagnetic interference affects TV and radio broadcasts, aviation and maritime communications negatively. However, It has been observed that many frequencies are not affected unless the radio and television antennas are close to the turbine. The electromagnetic interference effect of turbines varies in relation to blade size and material. It has been seen in

the studies that the noise and electromagnetic interference ratio is relatively high in turbines using metal materials, but this problem can be reduced by using fiberglass materials.

There are no communication facilities such as PTT line or TV transmitter in the immediate vicinity of the project area. There is a overhead 154 kV Çamlıca 1 HEPP TM-Yeşilhisar TM Energy Transmission Line. This energy transmission line has been processed in the Layout Plan given in ANNEX:3. The Security measures have been taken by leaving the necessary approach distances to the energy transmission line.

V.2.7. Identification of possible effects on forest areas and measures to be taken against these effects, measures to be taken against forest fires,

During the operation phase of the project, accidental fires can be given as an example of a negative impact on forest areas. Electrical installation maintenance is carried out on a regular basis at the power plant site, and the power plant site is monitored 24 hours a day for security purposes. In this context, Necessary measures are kept ready for immediate response against possible fire or sabotage. Some Mobile equipment for fire extinguishing shall be available at various points of the project site. In case of a fire despite the measures taken, It shall be intervened the fire immediately and the nearest fire department shall be notified. Personnel working for emergency response in case of fire shall be trained.

Within the scope of the project, In its opinion dated 20/10/2017 and numbered 2202100, Directorate of Forest Fire Fighting of the General Directorate of Forestry, The wind power plant permit request has been examined, It has been reported that there is no problem as long as taking the necessary precautions regarding forest fires by the company, meeting the permit request provided that the following conditions are fulfilled. (See Annex: 8) The points mentioned in the opinion are given below:

- Meeting the electrical energy of this facility, If there is a facility belonging to the General Directorate in the area subject to the permit,
 - When necessary, installing a relay device, sufficient number of cameras or other technical equipment belonging to OGM (General Directorate of Forestry),
 - OGM's free use of this service in places where internet is available
 - If there is a camera that sees the forest in the camera system etc. to be installed in the facility for security purposes, it should be used for the purpose of monitoring forest fires or, if necessary, installing an additional camera for this purpose,
 - Benefiting from the turbine antenna masts etc. to be installed in the facility when necessary by OGM,
 - The presence of warning lights on the turbines
 - It is stated that such matters; transmitting the information, which is from the meteorological data in the field where the Wind Turbines are located, needed by the Forestry Administration to the relevant parties with an interface software to be provided by the

company, should be included in the commitment deed to be made.

V.2.8. Examining in detail the possible effects on the beekeeping activities carried out in the region during the operation of the project and specifying the measures to be taken,

Beekeeping activities continue in the plateaus region within the boundaries of Çamlıca District. There are about 250 hives on the right and left sides of the valley, 1 km north of Sirçak Mountain, on the road called "Camel Road" in the highlands region. Within the framework of the observation studies carried out in the field and the information obtained from the local people, about 250 hives, which are spread on the right and left shores of the Küçükkuşu Stream valley and on the "Deve Yolu", are located 500 meters northwest of the turbine numbered T-9 and 1 km northwest of the turbine numbered T-10.

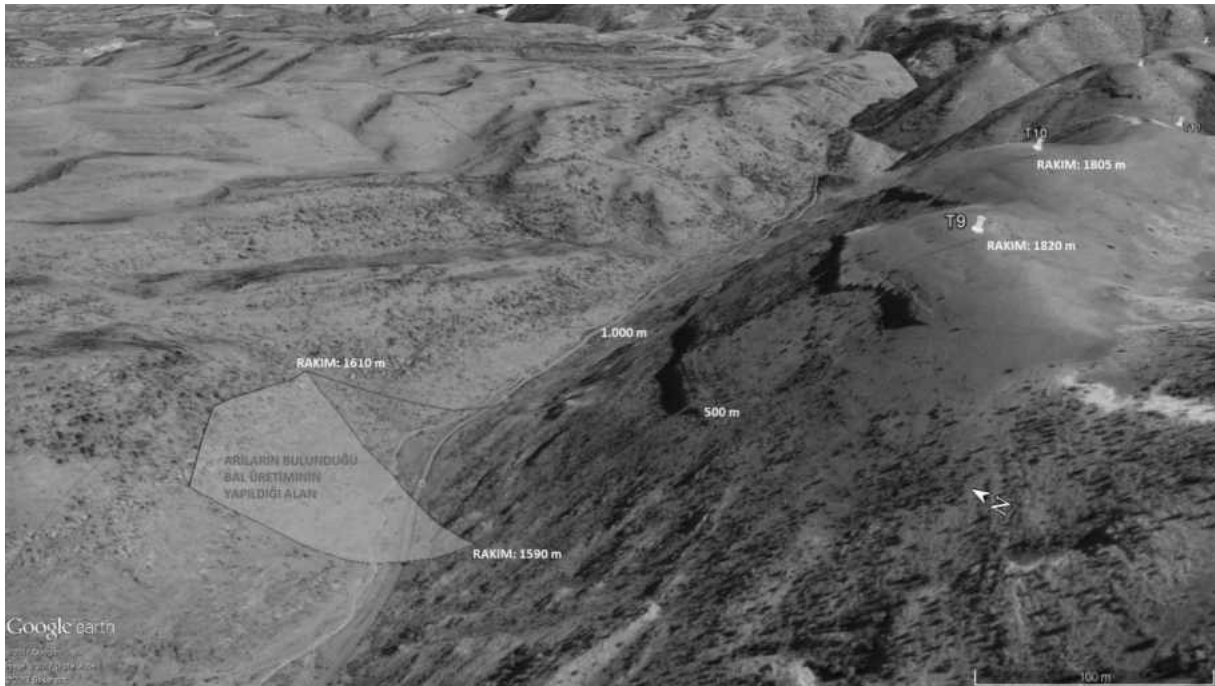


Figure V.2.8.1. Project area beekeeping activities and distance of turbines

Within the framework of the obtained data, when the turbine areas numbered T9 and T10 and the approximate areas where the bee hives are located are examined; although the distance of the turbine is 500 m with the highest altitude of the areas where the hives are located, the highest altitude is around 1590 m, the altitude of the T9 turbine is 1820 m and will be located 230 m above the hives in terms of topography. Likewise, The altitude of the apiaries located 1000 m northwest of the T10 turbine is 1610 m, and the altitude of the turbine area is 1805 m. The elevation difference of both areas is 195 m. Considering that the flight height of bees is around 10-30 m, there shall be no bee cases caused by turbines. Although it is not expected that this turbine will pose a problem in terms of the location of the beehives and honey production during the operation phase, The extent to which the aero-palynological

effects of the turbine activity will affect the honey production and the life of the bees should also be investigated during the operation phase.

During the construction activities to be carried out during the honey production periods of the bees in the project area, Measures shall be taken to protect beekeeping activities under dust, noise and other mechanical effects.

V.2.9. Noise sources and precautions to be taken during the operation of the project units,
(Making the calculations regarding the noise taking into account the nearest settlement, specifying the measures to be taken regarding the noise to be generated and the additional measures to be taken in case of insufficient examination in the report),

The noise source foreseen during the operation phase is the blades rotating with the wind, gearbox, generator and spare engines. Noise pollution claimed for wind plants is also not at a very high level. The average wind speed was determined as 9 m/s in the Vortex Wind Evaluation studies carried out in the project area. The catalog noise level of the Vestas V100-2.6 MW turbines planned to be used in the project is given as 104.1 dB(A) at 9 m/s. However, since the minimum distance between the turbines to be installed in the power plant area is 450 meters, it would be appropriate to model the noise level to be created by a single turbine, in the noise calculation.

Figure V.2.9.1. Equipment to be Used and Sound Power Levels

Machine	Sound Power Levels (dB)
Turbine	104.1

$$L_{wT} = 10 \log \sum 10^{(L_{wi}/10)} \dots\dots \text{Formula-3 (Total Sound Power Level)}$$

According to the distance created as a result of the above calculations, sound pressure level graph is given below.

Since the operating frequency range of the equipment used during the operation of the facility is 500-4,000 Hz, the sound pressure level of each point shall be equal to the approximate noise level. In this case, $L_{pT} = L_{day}$ can be accepted.

Table V.2.9.2. Distribution of Sound Power Levels to Octave Bands

Noise Sources	Sound Power Levels			
	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
Turbine	98.1	98.1	98.1	98.1

The sound pressure level of each noise source in the 4 octave band has been calculated according to the formula below. The results are again given in the table below.

$$L_p = L_w + 10 \log (Q / 4 \pi r^2)$$

L_w= Sound power level of the source (dB)

Q= Direction coefficient (1 is taken for moving sources)

r= Distance from source (meters)

Table V.2.9.3. Sound Power Levels

Noise Sources	Distance (m)	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
TURBINE	50	53.13	53.13	53.13	53.13
	150	43.59	43.59	43.59	43.59
	250	39.15	39.15	39.15	39.15
	500	33.13	33.13	33.13	33.13
	750	29.61	29.61	29.61	29.61
	1000	27.11	27.11	27.11	27.11
	2000	21.09	21.09	21.09	21.09
	3000	17.57	17.57	17.57	17.57

Atmospheric absorption values for each frequency have been calculated according to the formula below and the relative humidity (Q) has been taken as 59.1%.

$$A_{atm} = 7,4 \cdot 10^{-8} (f^2 r / \Phi)$$

F : Frequency of the noise source

r : Distance

Φ : Relative humidity

Table V.2.9.4. Atmospheric Absorption

OCTAVE BAND (Hz)	Distance (m)	Atmospheric Absorption
500	50	0.02
	150	0.05
	250	0.08
	500	0.16
	750	0.23
	1000	0.31
	2000	0.63
	3000	0.94
	50	0.06

1000	150	0.19
	250	0.31
	500	0.63
	750	0.94
	1000	1.25
	2000	2.50
	3000	3.76
2000	50	0.25
	150	0.75
	250	1.25
	500	2.50
	750	3.76
	1000	5.01
	2000	10.02
3000	15.03	
4000	50	1.00
	150	3.01
	250	5.01
	500	10.02
	750	15.03
	1000	20.03
	2000	40.07
3000	60.10	

After deducting the atmospheric absorption values, The final sound pressure level in the 4 octave band of each noise source has been calculated according to the formula below. The results are again given in the table below.

$$L_p = L_p - A_{atm}$$

Table V.2.9.5. Ultimate Sound Pressure Levels

Noise Sources	Distance (m)	500 Hz	1000 Hz	2000 Hz	4000 Hz
TURBINE	50	53.12	53.07	52.88	52.13
	150	43.54	43.40	42.84	40.58
	250	39.07	38.84	37.90	34.14
	500	32.97	32.50	30.63	23.11
	750	29.37	28.67	25.85	14.58
	1000	26.80	25.86	22.10	7.08
	2000	20.46	18.59	11.07	-18.98
	3000	16.63	13.81	2.54	-42.53

The correction factors in the table below have been used to calculate the sound levels.

Table V.2.9.6. Correction Factors

Center Frequency	Correction Factor
500	-3.20
1000	0.00
2000	1.20
4000	1.00

As a result of the calculation made with the correction factors in the table above, The sound levels found for the 4 octave bands of each noise source and the total sound levels according to the formula given below are given in the table below.

$$L_T = 10 \log \sum 10^{L_i/10}$$

L_T: Total sound level

L_i: Noise source corrected volume

Table V.2.9.7. Total Sound Levels

Noise Sources	Distance (m)	500 Hz	1000 Hz	2000 Hz	4000 Hz	Total Sound Level
TURBINE	50	49.92	53.07	54.08	53.13	58.82
	150	40.34	43.40	44.04	41.58	48.60
	250	35.87	38.84	39.10	35.14	43.60
	500	29.77	32.50	31.83	24.11	36.54
	750	26.17	28.67	27.05	15.58	32.29
	1000	23.60	25.86	23.30	8.08	29.21
	2000	17.26	18.59	12.27	0.00	21.56
	3000	13.43	13.81	3.74	0.00	16.94

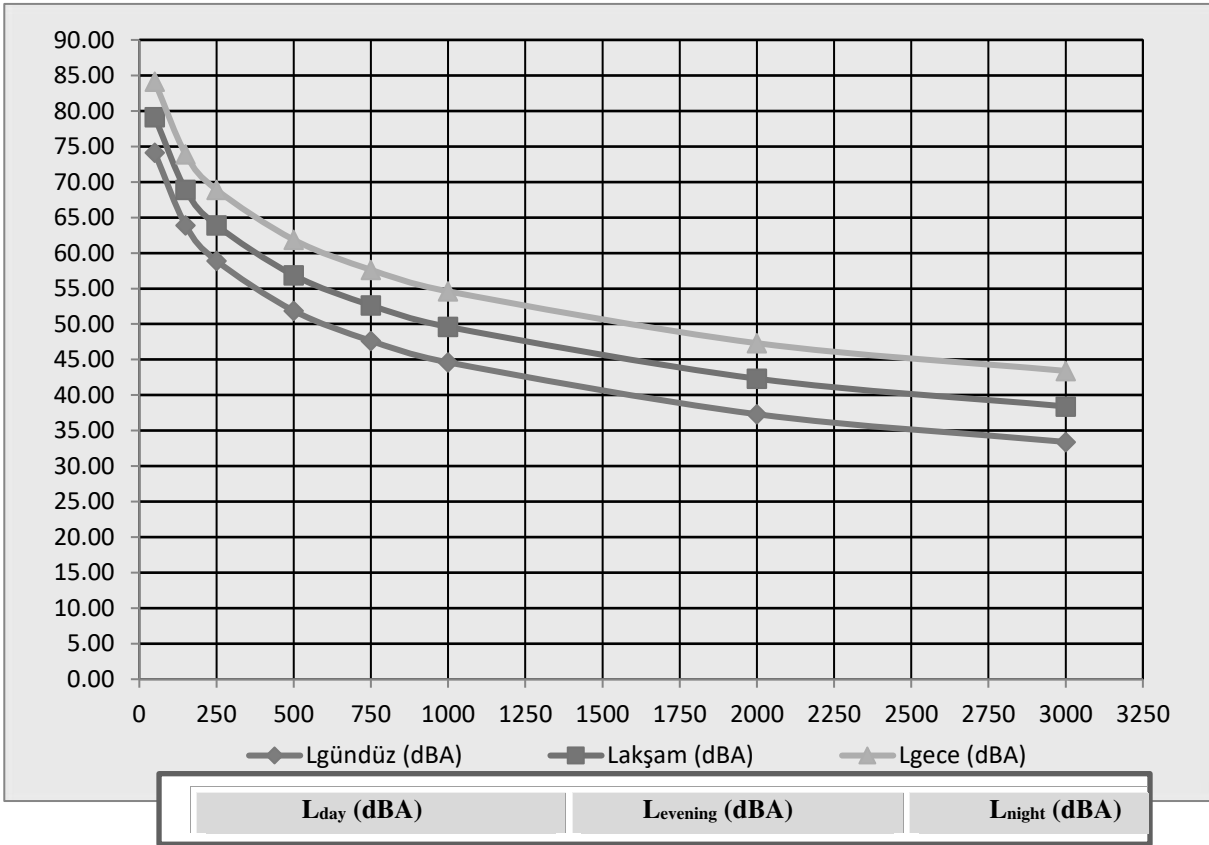
Assuming the worst case scenario, if each noise source works in the same place, Equivalent noise levels have been calculated and given in the table below. For this purpose, the following formula was used and calculations have been made considering the number of equipment.

Equivalent noise levels ($L_{day} = L_{eq}$) have calculated from the formula $L_{eq} = 10 \log \sum 10^{L_{T(i)}/10}$, and L_{day} levels have been found, and accordingly, the evening and L_{night} levels have calculated.

Table V.2.9.8. L day , L evening and L night Levels in Operation Phase

Distance	L _{day} (dBA)	L _{evening} (dBA)	L _{night} (dBA)
50	74.14	79.14	84.14
150	63.91	68.91	73.91
250	58.92	63.92	68.92
500	51.87	56.87	61.87
750	47.64	52.64	57.64
1000	44.61	49.61	54.61
2000	37.31	42.31	47.31
3000	33.41	38.41	43.41

* The noise values to be felt in Çamlıca Mahallesi, which is 3,000 meters from the turbine numbered T25, and Avlağı Mahallesi, which is 3,000 meters from the turbine numbered T15, which are the closest settlements.

**Chart V.2.9.1. Distribution Graph of Noise According to Distances**

In accordance with Article 22 of the “Regulation on Evaluation and Management of Environmental Noise”; Environmental noise limit values for industrial facilities cannot exceed the limit values in the table given below in terms of L daytime, L evening and L night in Table 4.

Table V.2.8.9. Environmental Noise Limit Values Table for Industrial Facilities

AREAS	L _{day} (dBA)	L _{evening} (dBA)	L _{night...} (dBA)
Areas where education, culture and health areas and summer and camping areas are dense among noise-sensitive uses.	60	55	50
From the areas where commercial buildings and noise-sensitive uses exist together, areas where residences are densely located	65	60	55
From the areas where commercial buildings and noise sensitive uses are located together, areas where workplaces are concentrated	68	63	58
Industrial areas	70	65	60

In case of exceeding the environmental noise limit values given in the table above; the effective and applicable environmental control measures, together with measures to ensure the principles brought within the framework of the relevant legislation prepared by responsible institutions or organizations on the basis of each machine and equipment and workers exposed to noise, are taken.

The L_{day} value likely to be felt in Çamlıca Mahallesi, which is 3,000 meters away from the turbine numbered T25, which are the closest settlements to the power plant during the operation phase, and Avlağı Mahallesi, which is 3,000 meters away from the turbine numbered T15, is 33.41 dBA. L_{evening} value is 38.41 dBA, L_{night} value is 43.41 dBA. Pursuant to Article 22 of the "Regulation on Evaluation and Management of Environmental Noise"; Minimum limit values, in Environmental noise limit values for industrial facilities Table 4, is under the title of "Areas where residential buildings are dense from areas where commercial structures and noise sensitive uses are located together". For this reason, The amount of noise generated has been compared with the limit values here and L_{daytime} value 65 dBA, L_{evening} value 60 dBA, L_{night} value 55 dBA does not exceed the limit value.

At all stages of the activity, it shall be complied with The provisions of the "Regulation on Evaluation and Management of Environmental Noise", which came into force after being published in the Official Gazette dated 04.06.2010 and numbered 27601. In addition, measures shall be taken in accordance with the relevant articles of the "Occupational Health and Safety Regulation" dated 09.12.2003 and numbered 25311. Again, as stated in Article-22 of the same regulation, it will be ensured that the employees in the field of activity use headphones, helmets and work clothes etc. in order not to be affected by the noise. It shall be complied with the provisions specified in Article 78.

V.2.10. Evaluations made within the scope of the project regarding the light reflection and shadow effect to be caused by the turbines,

Wind turbines are tall structures and can be seen from relatively wide places. Some people express concern about the impact of wind turbines on the landscape, while others see them as a symbol of a stylish and elegant, less polluted future.

Shadow flicker and glow is another case of visual impact. During sunrise and sunset, the rotating blades of wind turbines can cause shadow play and shadow flicker. Likewise, the sunlight coming to the polished wings can also reflect around and create a glow effect. These problems can be minimized by painting the blades and turbine with a light matte gray color that matches the color conditions of the day. In order to prevent another visual pollution, pipe type towers should be used instead of pylon type lattice towers.

The project area is located in a remote location from the residential areas and It is thought that there will be no shadow and flicker effect that will disturb the region.

V.2.11. If there are airports, military or civil radar, meteorology stations and similar facilities in the project area and its immediate surroundings, specifying the distances to the project area,

In the opinion of the General Directorate of State Airports Authority within the scope of the project, it has been determined that the turbines to be installed in terms of Air Navigation methods are approximately 45 NM south of Kayseri Airport. It has been reported that the installation of the aforementioned turbines shall not adversely affect the air services for the said airport. In terms of Electronic Systems, it has been reported that electrical systems shall not cause a problem in signal performance and are outside the airport obstacle plans.

In the opinion given by the General Directorate of Civil Aviation within the scope of the project, It has been stated that the structure in question is outside the boundaries of the obstacle plans of the open air areas for civil air transportation. The opinions given by the General Directorate of State Airports Authority and the General Directorate of Civil Aviation are presented in Annex: 17.

V.2.12. Where and how housing and other social/technical infrastructure needs of The personnel to work during the operation of the project and the population dependent on this personnel, shall be provided,

In the project, there shall be a social and administrative facility building in the switchyard at the power plant site. It is planned to employ 10 people during the operation phase of the project. Priority shall be given to the selection of working personnel from nearby settlements. It is thought that the operating personnel will be accommodated in the surrounding settlements such as the city center or the district center, and It shall be utilized from municipal infrastructure.

V.2.13. The characteristics of the treatment plant to be applied for the treatment of waste water that will occur after the use of drinking and utility water in administrative and social units, detailing the process and how the treated wastewater will be delivered to which receiving environments, in what quantities,

It is planned to employ 10 personnel during the operation phase of the facility, and accordingly, the amount of water to be used in the operation phase;

Water consumption of one person = 150 lt/ person-day

Number of personnel to be employed = 10 persons

Amount of Water Required = 150 lt/ person-day x 10 persons
= 1.500 lt/day (1.5 m³/day)

The pollutant loads in the domestic wastewater are calculated and given in Table-V.2.13.1.

Table V.2.13.1. Operation Phase Domestic Wastewater Pollutant Loads

Parameter	Concentration (kg/day)
AKM	0,3
BOİ ₅	0,3
KOI	0,75
Total nitrogen	0,06
Total Phosphorus	0,015

It is planned that the water to be used in the operation phase of the project shall be supplied from ready-packaged water for drinking purposes. The usage part is planned to be met by authorized tankers. In this context, it has been applied to Yahyalı Municipality and the water supply letter is presented in Annex-12.

It shall be complied with The provisions of the "Regulation on Water Intended for Human Consumption", which came into force after being published in the Official Gazette dated 17.02.2005 and numbered 25730 (Amended RG-7/3/2013-28580).

Assuming that all of the water to be used in the operation phase turn into waste water, The amount of waste water to be generated during the operation phase shall be 1.5 m³ /day. The resulting wastewater shall be collected in 1 impermeable septic tank to be built. An application has been made for the waste water collected in the septic tank to be drawn with a vacuum truck and discharged to the KASKİ Sewerage Network. When the operation phase is started, the necessary protocol shall be signed with KASKİ. The opinion of the General Directorate of Water and Sewerage Administration of Kayseri Metropolitan Municipality is given in Annex: 12.

The dimensions of the impermeable septic tank to be constructed in the activity area shall be 5 m x 5 m x 6 m. The depth of the septic tank was taken as 6 m with a safety gap of 1

m. However, a maximum of 5 meters of it shall be filled. According to this; It is sufficient to withdraw the septic tank in $125 \text{ m}^3 / 1.5 \text{ m}^3 / \text{day} = 83$ -day periods during the operation phase.

While this process is being implemented, it shall be complied with Principles of "Regulation on Pits to be Built in Places where Sewer Constructing is Impossible", which came into force after being published in the Official Gazette dated 19.03.1971 and numbered 13783. Septic tank plan is given in Annex: 12.

At every stage of the project, it shall be complied with all relevant issues specified in the "Regulation Regarding Pits to be Made in Places where Sewer Pipeline Construction is Impossible" of the Ministry of Health No. 251. In addition, Regarding the liquid wastes generated at the facility, it shall be complied with "Water Pollution Control Regulation" which entered into force by being published in the Official Gazette dated 31.12.2004 and numbered 25687 and all relevant matters stated in the "Regulation on Amending the Water Pollution Control Regulation", which came into force after being published in the Official Gazette dated 13.02.2008 and numbered 26786.

After the turbines are installed, there is no water use in the process during the operation phase. Therefore, liquid waste generation shall not occur due to the operation of wind turbines.

V.2.14. The amount and characteristics of solid waste to be generated from administrative and social facilities, where and how these wastes are transported or for what purposes and how they are evaluated,

Domestic Municipal Wastes

It is planned to employ 10 personnel at the power plant site during the operation phase. Accordingly, the amount of domestic solid waste generated is calculated below.

The amount of solid waste produced per day = 0.87 kg

Number of personnel to work = 10

Solid Waste Amount = $0.87 \text{ kg/person-day} \times 10 \text{ personnel}$
= 8.7 kg/day

Packaging wastes (recyclable) constitute approximately 12.05% of domestic municipal waste. (Source: Environment and Sustainable Waste Panel, Cezmi Neyim Çevko Panel). In this case, the amount of packaging waste to be generated during the operation phase of the project;

Amount of Packaging Waste = Amount of Municipal Waste $\times 0.1205$

Amount of Packaging Waste = $8.7 \text{ kg/day} \times 0.1205$

Amount of Packaging Waste = 1,05 kg/day

In this case, the amount of biodegradable wastes;

Amount of biodegradable waste = Total Amount of Domestic Municipal Waste – Amount of Packaging Waste

Amount of biodegradable waste = 8.7 kg/day – 1.05 kg/day

The amount of biodegradable waste = 7.65 kg/day have been calculated.

Accordingly, the waste codes and amounts of domestic municipal wastes to be generated during the operation phase are given in the table below.

Table V.2.14.1. Codes and Quantities of Domestic Municipal Wastes to Be Generated During Operation

Waste Code	Explanation	Amount	Method of Disposal
		Kg/day	
<i>20 Municipal Wastes Including Separately Collected Fractions (Domestic Wastes And Similar Commercial, Industrial And Institutional Wastes)</i>			
20 01 01	Paper and cardboard (6%)	0,522	It shall be collected separately at its source and disposed of in the Yahyalı Municipality garbage collection system by the activity owner.
20 01 02	Glass (6%)	0,522	
20 01 08	Biodegradable kitchen and canteen waste (88%)	7,656	
TOTAL		8,7	

Packaging Waste

Packaging wastes (recyclable) constitute approximately 12.05% of domestic municipal waste. In this case, the amount of packaging waste to be generated during the operation phase of the project has been calculated as 1.05 kg/day.

The waste codes and amounts of the packaging wastes to be generated during the construction phase are given in the table below.

Table V.2.14.2. Packaging Wastes and Amounts to Be Occurred During Operation

Waste Code	Explanation	Amount	Method of Disposal
		Kg/ day	
<i>15 01 Packaging (Including Separately Collected Packaging Waste of the Municipality)</i>			
15 01 01	Paper and cardboard packaging (45%)	0,4725	It shall be given to licensed recycling companies after being stored in accordance with the provisions of the "Packaging Waste Control Regulation".
15 01 02	Plastic packaging (20%)	0,21	
15 01 06	Mixed packaging (20%)	0,21	
15 01 07	Glass packaging (15%)	0,1575	
TOTAL		1,05	

During the operation phase of the project, recyclable packaging wastes from municipal wastes and packaging wastes shall be separated as paper, glass, plastic and metal and shall be collected in closed garbage bins or in durable garbage bags to be recycled. Domestic municipal wastes shall be collected in closed garbage bins or in durable garbage bags to be kept in the field and shall be taken from the field by the cleaning teams of Yahyalı Municipality. In this context, the letter given by Yahyalı Municipality is presented in ANNEX :12. Domestic municipal wastes and packaging wastes shall not be left to the field haphazardly and shall not be abandoned to nature.

On the collection, recovery and disposal of packaging wastes, It shall be complied with the provisions of the "Waste Management Regulation" on the disposal of municipal waste, which came into force after being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016) and The provisions of the "Packaging Waste Control Regulation", published in the Official Gazette dated 24.08.2011 and numbered 28035.

WASTES OF CONSUMABLES (WASTE BATTERY, ACCUMULATOR, TONER, FLUORESCENT)

In the project, the wastes to occur after the batteries, fluorescent lamps and printer toners, having completed their life, to be used in the administration building shall be stored in closed containers separately from other wastes in the facility area, according to the provisions of the "Regulation on Control of Waste Batteries and Accumulators" and shall be given to recycling companies that have received a license from the Ministry of Environment and Urbanization. Documents taken from disposal facilities shall be kept for 5 years to be submitted to the authorities.

Table V.2.14.3. Waste Batteries and Accumulators and Their Quantities to Be Occurred During Operation

Waste Code	Explanation	Amount(Approx.)	Method of Disposal
<i>In 16 Lists, Wastes Not Otherwise Specified</i>			
16 06 04	Alkaline batteries (except 16 06 03)	50pcs/year (battery)	According to the provisions of the Regulation on Control of Waste Batteries and Accumulators, they shall be stored in closed containers separately from other wastes in the facility area and given to recycling companies licensed by the Ministry of Environment and Urbanization.

It shall be complied with The Regulation on Control of Waste Batteries and Accumulators published in the Official Gazette dated 31.08.2004 and numbered 25569 (Amended: OG-23/12/2014-29214) and The provisions of the "Waste Management Regulation", which entered into force after being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG 23/3/2017-30016).

V.2.15. Risky and dangerous activities in terms of human health and environment during the operation phase of the project,

In project scope, against all kinds of approaches that may be risky and dangerous for human health and the environment, All necessary precautions and measures shall be taken, which has stated in the "Provisions Regarding Operational Safety" in the 7th section of the "Regulation on Electric Power Current Facilities", which was published in the Official Gazette dated 30.11.2000 and numbered 24246, article 59; "Entering High Current Facilities", article 60; "Working in High Current Facilities" and article 61; "Ensuring the Safety of Employees and Employees". Grounding process shall be carried out. The energy transmission line of the facility to be established shall be planned by taking into account all necessary and sufficient safety measures and distances stipulated by the "Regulation on Electric Power Current Facilities".

Among the accident risks arising from the technology and materials to be used in the construction phase of the project, There may be some possible accidents arising from the carelessness of the personnel to be employed and the failure to carry out the necessary maintenance and repair works of the machinery and equipment on time.

Since it shall be possible to communicate by telephone in the Plant, necessary help can be requested from the nearest health institution in an emergency that may occur as a result of an accident. A first aid cabinet shall be available in the facility for first aid interventions. There shall be a security guard waiting day and night at the facility. In case of sabotage, explosion, natural disaster, accident, fire; Necessary training shall also be given on the necessary first aid interventions and civil defense measures and response functions to establish the necessary contacts by telephone and in a possible situation.

After the necessary precautions are taken against any malfunction that may occur in the facility, repair and maintenance operations shall be carried out. Maintenance shall be carried out for the efficient operation of all units in the facility and for safety.

During the construction of the facility, it shall be complied with the provisions of the Occupational Health and Safety Regulation.

Accident risks that may occur during the operation phase of the facility include the overturning of the wind turbine if the wind speed is too high. However, In addition, the turbines planned to be used in the facility are equipped with proportional power and various steel and concrete cast tower versions; that is, It is designed to guarantee a high level of power generation, and suitable for places with high wind speed.

In line with the provisions of the Regulation on Wind Power Plants, Business Licenses, It is evaluated within the scope of 2nd Class Non-Sanitary Institutions. In this direction, in the project, The relevant administration will be applied for the purpose of Opening a Business and Obtaining a Work License, and the necessary safety measures shall be implemented by complying with the Health Protection Band distances stipulated by the administration.

Safety measures to be implemented in the project;

- The transformer shall be surrounded by wire mesh,

- Warning signs shall be placed at necessary places within the facility,
- Emergency Action Plan shall be created and the personnel to be employed shall be trained.

In addition, the connection between the turbines in the system to be established in the project shall be provided by underground cables and shall be transmitted to the transformer. There shall be no cable etc. system that may pose a hazard above ground. The transmission to the main shaft shall be via overhead cables. The technology used in the project is equipped with conventional systems which is a system that provides sensitive automation and can turn itself off in case of any voltage rise, natural disaster and can be monitored from the administrative building. In terms of maintenance and repair works to be carried out in the project and the safety of the personnel to be employed, Necessary equipment will be provided to the personnel and it shall be complied with the provisions of TEİAŞ (Turkey Electricity Transmission Inc.) Occupational Safety Regulation.

The turbines to be installed in the project are mounted on robust and durable steel poles produced at world standards. These pillars are fixed in place with the foundation depths and concreting methods predicted according to the foundation and soil characteristics determined by the drillings and resistivity studies made in the geological and geotechnical survey reports made for the project and Against the risks of overturning of the turbines, The foundation pillars are reinforced with steel ropes and additional concreting works.

Human Factors and Ergonomic Precautions:

Considering the forgetfulness factor; Great importance should be given to the selection of the place where the warning signs are placed, the conciseness of the instructions, the double security system. People who have learned a certain job and have practiced it for a long time expect certain results from their actions. For this reason, Unless human habits and expectations are taken into account in all machine designs, related accidents cannot be prevented. Although employees can see certain risks, ignoring significant risk factors also increases accidents. Factors such as excessive vibrations, noise, breeze, humidity level and bodily strains in the work environment can cause accidents by creating stress. In addition, Care should be taken to ensure that the safety materials that should be given to the employees for occupational safety are in an ergonomic structure. Safety equipment and hand tools should be used for construction-specific work. Low voltage gloves should not be used in high voltage work. Likewise, The electric control pen should not be used instead of a screwdriver.

At the same time, Training employees with a good technical level when they are employed and on the job shall reduce the likelihood of accidents.

The General Factors Composing Work Accidents in Electrical Works are as follows:

- Failure to make, maintain and repair the electrical installation by persons with authorized license according to its type and volume,
- The bare metal parts of the machinery or tools are not grounded or the necessary

insulation is not made,

- As a result of not examining the grounding easily, Disruption of grounding of known tools or machines, which are grounded, over time or as a result of external factors,

- Not giving enough personal protective equipment and safety equipment to the employees or not using them,

- Not giving the necessary information to the employees on occupational health and safety issues and not being warned about this issue continuously or not complying with these rules set in the workplace,

- Employees do not have the necessary education, knowledge and experience about electrical energy, as a result they have overconfidence and do not show the necessary attention and care towards electricity.

- Employees' intervention in the malfunction without receiving the necessary instructions or out of their duties.

- Employees or employers do not adopt their work.

In general, to protect people from electric shock:

Such arrangements are used as follows;

-Protective insulation,

- Insulation of the floor standing on,

-Using small voltage,

-Reset and

-Ground,

In addition, Residual Current Device which was made compulsory by TEDAŞ with the last amendment of the Electrical Indoor Facilities Regulation published in the Official Gazette dated 25.10.1996 and numbered 22798, is a very good technical advance in the name of occupational safety.

Protective insulation: It is the isolation of parts that are not normally under voltage but can become electrified as a result of insulation failure.

Pliers, pliers, screwdrivers and similar hand tools used in electrical work must be properly insulated and the handles of oilers, brooms, brushes and other cleaning tools must be made of non-current-proof material.

Insulating the place on which stand on: It is a protection measure made by placing wooden grates and rubber mats on the floor area of electrical panels with fixed electrical machines and vehicles that do not change their places.

This protection measure, in case of any electrical leakage, Electric shock does not occur because it insulates the human against the earth.

Using Low Voltage: Electric vehicles are operated with a voltage of 42 volts so that the electric shock is not effective in an insulation fault. Electric vehicles with this protection measure do not need to be grounded separately.

The plugs in this circuit should be chosen not to fit higher voltage outlets that may be in the same location.

Reset: It is the connection of the body parts (ie chassis) of electrical machines and vehicles to the neutral conductor. However, it is mandatory to use a copper conductor with a cross section of at least 10 mm² for direct connection to the neutral line.

Grounding: In places where electrical energy is used, the electrical connection arrangement of the metal parts that can carry current with the earth is called grounding. (in other words, it is the connection of the machine chassis and the soil on the earth with each other)

Visually inspected grounding lines must be installed on the chassis of all electrically operated machines and benches, lathes, milling cutters, planers, shapers, sawmills, drills, compressors etc.

In the annual periodic control document of the electrical installation, the measured resistance values of the grounding plates should be written in ohms and Additional grounding plate must be added to the plates with resistance greater than 10 ohms. (The grounding resistance of radioactive lightning rods should be less than 5 ohms.)

Residual Current Device : In the consumer circuit, when the incoming and outgoing currents are not equal to each other, It is a protection device that automatically cuts the circuit. In other words, In other words, if a current passes through the human body, the returning current shall not be equal to the incoming current and the electrical circuit shall be cut.

There is no need for a ground line in the residual current relay. Therefore, it is very safe to use in electrical appliances that are constantly changing locations.

Apart from the above-mentioned protection measures;

- Apart from the separate stopping device of the machines and benches in the workshops, there must be a main switch that completely stops the benches in the workshop or in the section.

- Materials that make the transition difficult should not be left on the front of the electrical panels.

- The start buttons of the machines and benches must be green and the stop buttons must be red. Lever and rotary switches should have labels such as "1" for starting and "0" for stopping.

- If the control place of machinery and workbenches is in a place where they cannot be seen, Before starting work, a warning sound should be given.

- Adequately grounded electrical sockets should be available in places where electrical

hand tools are to be used. Due to the lack of these sockets, the plugs of the hand tools are removed and the cables are connected straight. This leads to various accidents.

Snap switches should be used to operate the electrical hand tools, which will start when the switch is pressed and stop when it is released. When these switches are broken, they should be replaced with Snap switches of the same specification.

-Electrical cables must be properly installed, broken plugs and sockets must be repaired, fuses must be kept in a closed cabinet.

V.2.16. Site arrangements to create landscape elements in the project area or for other purposes,

Within the scope of the project, an inventory and analysis of the features of the natural and cultural landscape have been made by Landscape msc. Engineer Cem Atik. Landscape Repair Plan Report has been prepared in order to reveal the visual landscape characteristics specific to the area and is presented in ANNEX :23. In the Landscape Repair Plan Report, water, erosion, habitat, character and visual analyzes of the landscape, and biological and technical restoration issues depending on the repair objectives of the project are explained. In addition, temporary and permanent erosion control methods, application-related issues are explained.

V.2.17. Description of the economic life of the site and the actions to be taken in case of abandonment,

Prelicense / License has been given to Erciyes Wind Power Plant, by Energy Market Regulatory Authority, Electricity Market Department. Following the receipt of all necessary permits and licenses, the process of obtaining a production license for a period of 49 years continues. With the expiration of the license, it shall be possible to continue to produce energy in accordance with the conditions of the day and with the appropriate technology by making a new application. If the closure of the power plant comes to the agenda, land improvement works shall be carried out. Although wind farm areas and power plant site boundaries cover a large area, the area usage of units such as turbines and switchyards is very low. The area shall be organized by dismantling the installed turbines and filling the foundation pits by removing the sub-base concretes. By using landscape elements compatible with the region, the quality of the area shall be restored. Switchgear facilities and administrative buildings shall also be dismantled and removed from the area.

During all these processes, It shall be complied with the provisions of the "Regulation on Control of Excavated Soil, Construction and Demolition Wastes", which was published in the Official Gazette dated 18.03.2004 and numbered 25406.

V.2.18. By the review boards specified in the Regulation on Opening a Business and Working Licenses, Indicating that the distance of the health protection band is determined and that the Business and Working Licenses are obtained,

In line with the provisions of the Regulation on Wind Power Plants, Business Licenses, It is evaluated within the scope of 2nd Class Non-Sanitary Institutions. Accordingly, in the project, an application shall be made to the relevant administration for the purpose of establishing a Business and Obtaining a Working License. Necessary safety measures shall be implemented by complying with the Health Protection Band distances stipulated by the administration.

V.2.19. Indicating that the undertakings specified in the EIA Report and the General Sanitary Law No. 1593 and the laws and regulations related to the project shall be complied with in the assembly, operation and operations after the operation of the turbines within the scope of the project,

Within the scope of the project, In Installation of turbines, their operations and following processing after closing of plant to operations,

Along with the measures and commitments specified in the EIA Report, the Environmental Law No. 2872 and all the provisions of the current legislation and all regulations listed below shall be complied with.

Environmental Law No. 2872 and related regulations

|| Fisheries Law No. 1380 and related regulations

|| Law on Conservation of Cultural and Natural Assets No. 2863 and related regulations

|| Labor Law No. 4857 and related regulations

|| Soil Conservation and Land Use Law No. 5403 and related regulations

|| Expropriation Law No. 2942,

“Environmental Impact Assessment Regulation”, which came into force after being published in the Official Gazette dated 25.11.2014 and numbered 29186 (Amendment: RG 09.02.2016-29619 and RG 26/05/2017-30077)

|| “Waste Management Regulation” which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314 (Amendment: OG-23/3/2017-30016)

“Regulation on Control of Industrial Air Pollution” published in the Official Gazette dated 03.07.2009 and numbered 27277 (Amendment: RG 20.12.2014-29211)

“Packaging Waste Control Regulation” which came into force after being published in the Official Gazette dated 24.08.2011 and numbered 28035

“Water Pollution Control Regulation” dated 31.12.2004 and numbered 25687 (Amendment: Official Gazette dated 13.02.2008 and 26786 and Official Gazette dated March 30, 2010 and numbered 27537)

|| “Environmental Permit and License Regulation” published in the Official Gazette dated 10.09.2014 and numbered 29115

|| Water Pollution Control Regulation, which entered into force with the publication of the official gazette dated 31.12.2004 and numbered 25687 (Amendment: OG-13/2/2008-26786)

|| “Regulation on Control of Excavated Soil, Construction and Demolition Wastes” which was published in the Official Gazette dated 18.03.2004 and numbered 25406 (Amendment: Official Gazette dated 26.03.2010 and numbered 27533).

|| “Regulation on Control of Soil Pollution and Point Source Contaminated Sites” which entered into force by being published in the Official Gazette dated 08.06.2010 and numbered 27605 (amendment: Official Gazette dated 11.07.2013 and numbered 28704).

|| “Medical Waste Control Regulation” which was published in the Official Gazette dated 25.11.2017 and numbered 29959

|| “Regulation on Control of Waste Batteries and Accumulators”, which was published in the Official Gazette dated 31.08.2004 and numbered 25569 (Amendment: Official Gazette dated 05.11.2013 and numbered 28812),

|| “Regulation on Control of End-of-Life Tires” which was published in the Official Gazette dated 25.11.2006 and numbered 26357 (amendment: Official Gazette dated 05.11.2013 and numbered 28812).

|| “Regulation on Control of Waste Vegetable Oils” which came into force after being published in the Official Gazette dated 06.06.2015 and numbered 29378

|| "Regulation on Control of Waste Oils", which entered into force by being published in the Official Gazette dated 30.07.2008 and numbered 26952 (amendment: Official Gazette dated 05.11.2013 and numbered 28812),

|| “Regulation on Pits to be Built in Places Without Sewage Channels” which was published in the Official Gazette dated 19.03.1971 and numbered 13783

|| “Air Quality Evaluation and Management Regulation” which entered into force after being published in the Official Gazette dated 06.06.2008 and numbered 26898 (amendment: Official Gazette dated 05.05.2009 and numbered 27219).

|| “Regulation on Evaluation and Management of Environmental Noise”, which was published in the Official Gazette dated 04.06.2010 and numbered 27601 (Amendment: Official Gazette dated 27.04.2011 and numbered 27917).

|| “Regulation on the Protection of Wetlands”, which was published in the Official Gazette dated 04.04.2014 and numbered 28962

|| “Regulation on Buildings to be Constructed in Earthquake Zones”, which was published in the Official Gazette dated 06.03.2007 and numbered 26454

|| “Machine Safety Regulation” which came into force after being published in the Official Gazette dated 03.03.2009 and numbered 27158

|| “Regulation on Landfilling of Wastes” published in the Official Gazette dated 26.03.2010 and numbered 27533

V.2.20. Other activities.

(Whether there are other activities planned within the scope of the project, transformer, ETL (Electrical Transmission Lines) etc. related evaluations)

The food needs of the personnel who work during the operation phase of the project shall be met by the catering company with which the agreement will be made. For this reason, there is no generation of vegetable waste oil within the project site. If the food is cooked in the facility's cafeteria, the waste vegetable oils shall be collected in closed containers and given to recycling companies that have obtained a license from the Ministry of Environment and Urbanization in accordance with the provisions of the "Regulation on the Control of Waste Vegetable Oils" published in the Official Gazette dated 06.06.2015 and numbered 29378. The Documents received from recycling companies shall be kept for 5 years to be submitted to the authorities. Annual vegetable oil consumption per capita in our country has been determined as 21 lt (Ministry of Environment and Urbanization, General Directorate of Environmental Management, Management of Waste Vegetable Oils

Booklet). Assuming that 50% of this returns as waste oil, the waste oil production per person is determined as approximately 10 liters.

Table V.2.20.1. Code and Amount of Vegetable Waste Oil Expected to Occur during Operation

Waste Code	Explanation	Amount	Method of Disposal
<i>20 Municipal Wastes Including Separately Collected Fractions (Domestic Wastes And Similar Commercial, Industrial And Institutional Wastes)</i>			
20 01 25	Edible oils and fats	10 x 10 lt.person/year 100 lt/year	It shall be collected in closed containers and given to recycling companies licensed by the Ministry of Environment and Urbanization in accordance with the provisions of the Regulation on the Control of Waste Vegetable Oils.

V.3. Effects of the Project on the Socio-Economic Environment

V.3.1. Income increases expected to be realized with the project; employment opportunities to be created, population movements, migrations, education, health, culture, other social and technical infrastructure services and changes in the use of these services, etc.

V.3.1.1. Evaluation of social impacts by conducting interviews with the local people to be affected by the construction of the project,

Within the scope of the project, the sociological structure has been evaluated by Prof Dr Suavi AYDIN and the Social Impact Assessment Report has been prepared and presented in Annex: 24.

The application area of the project is a plateau region that traditionally forms the grazing area of Çamlıca (former Faraşa) and Yenice districts. Suna Plateau, located on the northwest edge of the activity area, and Soğulcak Plateau, which is further north and outside the impact area, are in the use of Yenice District. Suna Plateau is the subject of dispute between Çamlıca and Yenice. Dümbere and Ciritalanı Highlands in the activity area are the grazing areas of sheep and goats coming from various villages/neighborhoods and Çamlıca. Traditionally, highland areas with the characteristics of pasture should be subject to common ownership as the property of village legal entities, while some of these grazing areas, which have the characteristics of pasture, are owned by the treasury and some are privately owned. The inhabitants of Faraşa (Çamlıca) village, where the Greeks lived until 1923, were sent to Greece after being subject to exchange in accordance with the 1923/24 Exchange Treaty, and as a result of the placement of the Emigrants and the resettlement of some of the vacated places by the Vergik Turkmens, the northern pastures that previously belonged to the Faraşa villagers became the subject of ownership. It can be thought that while most of the pasture

was transferred on behalf of the treasury, some of it was assigned by the government to the exchanges through title deed, and some parts of the pasture that became private land as a result of this assignment were in the hands of various individuals through sales over time. On the other hand, Suna Plateau, one of the pastures belonging to Yenice District, has the quality of "pasture" and is a treasury land. However, the savings are largely in the hands of the people of Yenice, who are engaged in animal husbandry. While the people of Yenice were carrying out cultivation activities in Güçlüksu Mevkii, which has become a privately owned land, the land was deed in the name of some households from Çamlıca, and therefore, a conflict arose between some households from Yenice and some from Çamlıca. A part of the pasture land within the boundaries of Çamlıca within the scope of the activity is used by the nomads who come from the villages of Senykent and Aydınlar and stay here in tents in April-May and move to the Güçlük Plateau and Ceviz Plateau at the end of May. Although those who came from Senykent and Aydınlar lived in Çamlıca village before, they migrated to the villages mentioned later, and the right to graze on these lands is a customary and legal situation that they obtained during the period they lived in Çamlıca. In the rest of the plateau area, the herds of Çamlıca village are grazed from April until the beginning of December. The number of herds brought to graze here reaches 6,500 sheep and 500 cattle.

The land that is the subject of dispute between Yenice and Çamlıca is outside the scope of activity. On the other hand, the area used as a grazing area from the spring to the beginning of December coincides with the field of activity. However, since the locations of the wind turbines are chosen on the hills surrounding this grazing area, no activity conflicts are expected during the operation phase that will hinder the grazing activity here. In particular, turbine sites T-3, T-4 and T-5 and T-12, T-13, T-14, T-15, T 18 and T-19, T-20 and T-21 are close to grazing areas. . As it was said before, all turbine locations were selected at the peaks, and no problem was observed during the operation phase that would prevent animal husbandry, which is the main source of livelihood of four settlements in the region (Çamlıca, Senirköy, Aydınlar and Yenice neighborhoods) used as grazing areas and these settlements (except Yenice). On the other hand, the activity in this area is likely to have an impact during the construction phase.

There are about 250 hives on the right and left sides of the valley, 1 km north of Sirçak Mountain, on the road called "Camel Road" in the highlands region. Within the framework of the observation studies carried out in the field and the information obtained from the local people, about 250 hives, which are spread on the right and left shores of the Küçükkuyu Stream valley and on the "Deve Yolu", are located 500 meters northwest of the turbine numbered T-9 and 1 km northwest of the turbine numbered T-10. Although it is not expected that this turbine shall pose a problem in terms of the location of the hives and honey production during the operation phase, it should be investigated to what extent the aeropalynological effects of the turbine activity affect the honey production and the life of the

bees. On the other hand, during the construction activity, precautions should be taken to protect this activity under dust, noise and other mechanical effects.

There are no infrastructure facilities in the activity area, primarily in Yenice and Çamlıca. In addition, the limited traffic in the region is not susceptible to adverse effects, especially in terms of the risks to be created by the traffic that will increase during the construction phase. In the field of activity, It is the treasury land of the majority of the locations to be subject to the change of ownership. No loss of livelihood due to ownership conflict or change of ownership has been observed, as the land was concentrated in the hands of the operator through individual expropriation. (See Annex: 24)

V.3.1.2. Planning social responsibility projects (such as beekeeping training, etc.) in line with the demand of the local people,

WPP land is open to multiple land usage and the land use is limited with turbine areas. Agricultural activities such as afforestation, plant and animal production can also be carried out while energy production originating from the WPP project is carried out in its vicinity. The Social Impact Assessment Report of the Project is presented in Annex: 24, and the social structure and sensitivities of the region have been evaluated.

One of the issues mentioned in the public participation meeting was brought to the agenda as social responsibility projects in line with the demand of the local people.

In case of demand from the local people at both stages of the activity by ENERJİSA Enerji Üretim A.Ş. , the necessary training activities shall be provided within the scope of the social responsibility project. At the same time, in case of any interaction arising from the project about beekeeping, small cattle breeding and vegetable-fruit cultivation, which are the livelihoods of the people of the region, Training activities shall be provided by the owner of the activity in the direction of necessary guidance and livelihood-increasing information against possible measures during the construction and production phase of the project.

At the same time, the road improvement work to be needed during the construction phase of the project shall eliminate the transportation difficulties of the local people. As a result of the road improvement work to be carried out on the road called "Camel Road" in the Highlands region, It is also thought that transportation to Yenice Mahallesi shall be more convenient and easier in the following periods, and the existing difficulties in terms of transportation circulation shall be eliminated.

In line with the demand of the local people, after the necessary job applications are made for the selection of personnel during the construction and operation phase of the project, ENERJİSA will give priority to the selection of persons in the appropriate job position (Electrical technician, cook, driver, watchman, qualified/unqualified personnel, etc.).

In both phases of the project, It is thought that it shall benefit the local people. At the same time, connecting the electricity produced to the interconnected system and using it as a clean and domestic resource within the scope of renewable energy shall have an effect on reducing our dependence on foreign sources.

V.3.2. Environmental cost-benefit analysis.

The main effect of wind energy is that it does not show the pollution caused by fossil fuel power plants in electricity production. While different energy sources can replace conventional energy sources, the environmental cost of wind energy can be much lower.

Since wind power is directly utilized, no fuel is used and does not cause air pollution like fossil fuel power sources. Wind turbines do not emit carbon dioxide (CO₂), sulfur dioxide, mercury, particulates or greenhouse gases that cause air pollution as in fossil fuels.

Fossil fuels and nuclear power plants use large amounts of water for cooling, evaporation or whatever. Conversely, wind turbines do not need water for electricity generation.

When choosing the areas where the wind turbines are installed, after paying attention that they do not coincide with the migration routes of the birds, It has not been found to cause significant harm to living things. Thanks to better analysis of the installation sites, the rotation of the wings in modern turbines as fast as the birds can see, the use of paints and signs that will attract the attention of the birds, and the use of ultrasonic stimuli in areas close to the migration routes of the birds, It has reduced bird deaths to a rare level compared to other human-made structures. In modern turbines, this number is negligible when the effect on the ecosystem is considered. Today, deaths are declining; The majority of deaths are caused by old turbines installed in places like Altamont Pass, east of San Francisco, from the 1970s to the 1990s. Thousands of intertwined turbines have been installed in this and similar regions, which are not far from San Francisco, which is developed in terms of industry and technology, and whose landforms and settlements shall not prevent installation and testing, most of them for research and development, without examining their effects on wildlife. Many of the towers of these old turbines are supported by wires that birds cannot see, and tower structures are in the form of cage structures that create serious obstacles to birds, as in electricity poles. In modern turbines, tubular (monopoly) towers are used instead of wire and lattice structures. Modern turbines are installed instead of turbines in such distorted fields.

There are important strategic opportunities in front of Turkey in order to meet the rapidly increasing need for electrical energy and to turn to economical, clean energy production that reduces its dependence on imported fuel, can be put into use in a short time, that causes the least damage to the environment.

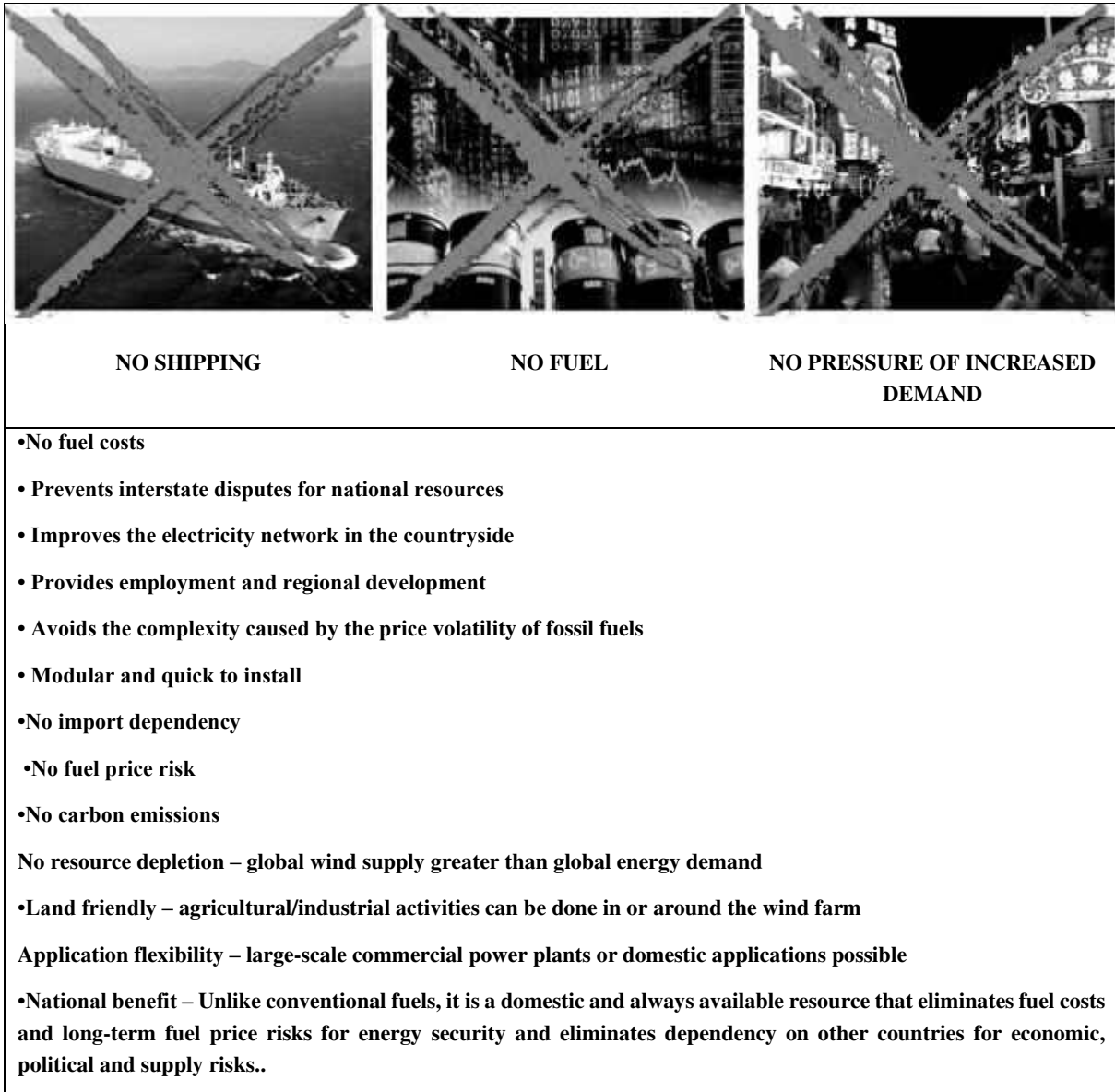


Figure V.3.2.1. Important Advantages of Wind Energy

The technological development in wind energy in the world is rapidly reducing the production costs. Today, power plants with good wind regime can compete with thermal and nuclear power plants in terms of production cost.

Considering the necessary investments to eliminate the environmental damage caused by conventional and nuclear power plants, an “external cost” of 5 cents/kWh on average needs to be taken into account. External cost is the amount of technological investment required to compensate for the damage done to public health and nature.

In the Erciyes WPP project, 227,500,000 kWh/year energy shall be produced by wind turbines. This energy to be produced from clean, renewable and national resources, shall substitute a certain amount of electrical energy that thermal power plants need to produce and

deliver to the grid. In this way, It ensures that less fossil fuel shall be consumed. Less consumption of these fuels will mean that our country produces less greenhouse gas emissions in total. This, among other benefits, shall make significant contributions to the prevention of global warming.

When faced with alternative electricity generation methods, The most important environmental benefit of wind energy is that it does not cause any pollution in terms of air pollution. Wind energy shall reduce CO₂ emissions from fossil fuels. Wind energy is one of the most important weapons of the war against global warming initiated by the Kyoto Protocol.

Table V.3.2.1. CO₂, SO₂, NO_x emissions that cause global warming and acid rain during electrical energy production

Energy Source	CO ₂ (kg/1000 kWh)	SO ₂ (kg/1000 kWh)	NO _x (kg/1000 kWh)
Coal	963	0.62	3.6
Natural gas	608	0.0032	2.1
Oil	890	5.58	1.6
Wind	-	-	-

Wind turbines are extremely important in reducing CO₂ emissions. According to research by the American Wind Energy Organization, 1 MegaWat of wind energy prevents the release of 1,500 tons of carbon dioxide, 6.5 tons of sulfur dioxide and 3.2 tons of nitrogen oxides per year, compared to conventional sources.

While Turkey has unlimited resources, it lags behind many countries in renewable energy production and use. However, studies conducted around the world prove that the use of wind energy has great advantages over conventional sources, both in terms of the environment and in terms of energy potential.

Considering the carbon footprints created by energy production, wind power plants once again emphasize the importance of renewable energy sources by preventing the emission of 1,500 tons of carbon dioxide per year compared to other conventional systems. Today, 65,000,000,000 kWh of energy is obtained with the power of wind in the world, and this figure provides electricity for 6 million homes. In the United States, 1.6 million homes are powered by wind energy, with an annual production of 16,000,000,000 kWh.

According to studies conducted in the USA, it is expected that electricity produced by wind energy shall reach 25 million homes in the USA in 2020. While the generation from wind energy in our country is only 6,447 MW, only 8 percent of the total installed power comes from wind energy.

Wind power plants are preferred with their capacity to be built in a short time and to produce uninterrupted, efficient and clean energy in regions with dense wind rivers. As electricity generation facilities with the lowest investment cost, it provides the majority of energy production in many countries in the world.

No emission of gases with polluting effect on the atmosphere, Being a clean and environmentally friendly energy source, Not using fuel, Not running out of resources (as long as the sun, earth and atmosphere are present), Installation and operation of wind facilities easier than other facilities, Low energy production costs, A Local Being a resource and being open to other uses (sustainability of first uses such as agriculture and livestock activities to a certain extent) are its prominent advantages. Wind Farms are defined as Clean Energy.

PART VI: AT THE END OF THE PROJECT LIFE TIME, POSSIBLE AND LASTING EFFECTS AND MEASURES TO BE TAKEN AGAINST THESE EFFECTS:**VI.1. Land Reclamation,**

Erciyes Wind Power Plant is a project that has received an Pre-License by the Energy Market Regulatory Authority, and the process of obtaining Production license of it for 49 years continues. With the expiration of the Production License, energy production can be continued according to the conditions of the day and with the appropriate technology by making a new application. If the closure of the power plant comes to the agenda, land improvement works shall be carried out. Although wind farm areas and power plant site boundaries cover a large area, the area usage of units such as turbines and switchyards is very low. By dismantling the turbines installed and filling the foundation pits by removing the sub-base concretes, the area shall be arranged and the area will be restored by using landscape elements compatible with the region. Switchgear facilities and administrative buildings shall also be dismantled and removed from the area.

During all these processes, It shall be complied with the provisions of the "Regulation on Control of Excavated Soil, Construction and Demolition Wastes", published in the Official Gazette dated 18.03.2004 and numbered 25406.

VI.2. Other Activities.

Since Wind Power Plant projects are from renewable energy sources and there is no fuel use and there is no waste from the process, There are no significant environmental or lasting effects after closure. In this context, there is no other study that needs to be explained in this section.

PART VII: PROJECT ALTERNATIVES

(In this section, a comparison of site selection, technology and the alternatives of the measures to be taken shall be made and the order of preference shall be made.)

Wind Energy is an energy source that causes the least damage to the environment and therefore has the lowest external costs. Unfortunately, the technology that transforms wind energy into electrical energy requires large capital. However, it is a fact that fuel and operating costs are very low. At this stage, The good financing conditions show that the electrical energy to be obtained from Wind Energy is much cheaper than that obtained from all other known energy sources. In any case, Compared to the plants working with other conventional energy sources of Wind Power Plants around the world, It is observed that it is supported in a much wider area and it finds financing much easier and on better terms than others.

Due to the fact that a significant part of Turkey is located in a region of the world that receives regular and effective winds, Turkey's widespread use of wind energy, which is a self-renewing and environmentally friendly energy, shall create an advantageous environment for our country in terms of economy and environment. The geographical features of our country, coastlines, mountain and valley structures, as well as the results of wind measurements made by the EIE (Electrical Works Survey Administration) Administration and the General Directorate of Meteorology shows that wind energy is a resource that should be taken into consideration in Turkey. Therefore, Within the scope of the project, the Wind Power Plant has been selected as the cleanest source of electrical energy supply.

According to the data of the Energy Market Regulatory Authority, to date, 6 Wind Energy power plants with a total installed capacity of 274 MWe have been granted a generation license in Kayseri. Of these, 12 MW Zincirli WPP is located 1 km north of ERCİYES WPP, 45 MW Kurtkayası WPP 3 km and 82.5 MW Bak-Yahyalı WPP 8 km north of the ERCİYES WPP. There are 52.5 MW Se-Santral-Yahyalı WPP 6 km east of ERCİYES WPP and 80 MW Aksu WPP 4.5 km east of ERCİYES WPP. Aksu WPP, the oldest of these power plants, was commissioned in March 2012.

REPA is the Wind Energy Potential Atlas, which provides wind resource information generated using a medium-scale numerical weather forecast model and a micro-scale wind flow model. With the help of this atlas, 200 m x 200 m resolution; It can be learnt that Annual, seasonal, monthly and daily wind speed averages at 30, 50, 70 and 100 meters altitude, Annual, seasonal and monthly wind power densities at 50 and 100 m altitudes, Annual wind classes at 50 m altitude, Annual capacity factor at 50 m altitude for a reference wind turbine, Monthly temperature values at 2 and 50 m altitudes, Monthly pressure values at sea level and 50 m altitudes.

The official wind atlas in Turkey has been prepared based on the measurements carried out by the State Meteorology Affairs (DMI) and the General Directorate of Electrical Works Survey Administration (EIE).

DMI (State Meteorological Affairs) measures wind speed at more than 2000 locations in Turkey and some records have been kept since 1925. DMI measurement stations (www.meteor.gov.tr) are available all over the country, but data are only available for the last five to ten years.

Since 1996, As the first stage of preparing a wind atlas, the Electrical Works Survey Administration (www.eie.gov.tr) has started to carry out wind measurements at 34 sites in various regions of Turkey. However, Due to the wrong measurement site selection and the use of an uncalibrated anemometer, the measurements of the EIE (Electrical Works Survey Administration) have not been very useful. In light of the above, A wind atlas prepared for Turkey based on the data obtained cannot be seen as a reliable source of information. However, EIE and DMI (government meteorological affairs) collaborated to prepare a wind atlas in Turkey and published their results in 2003.

According to REPA data, the capacity factor of ERCIYES WPP has been determined as 30-35%.

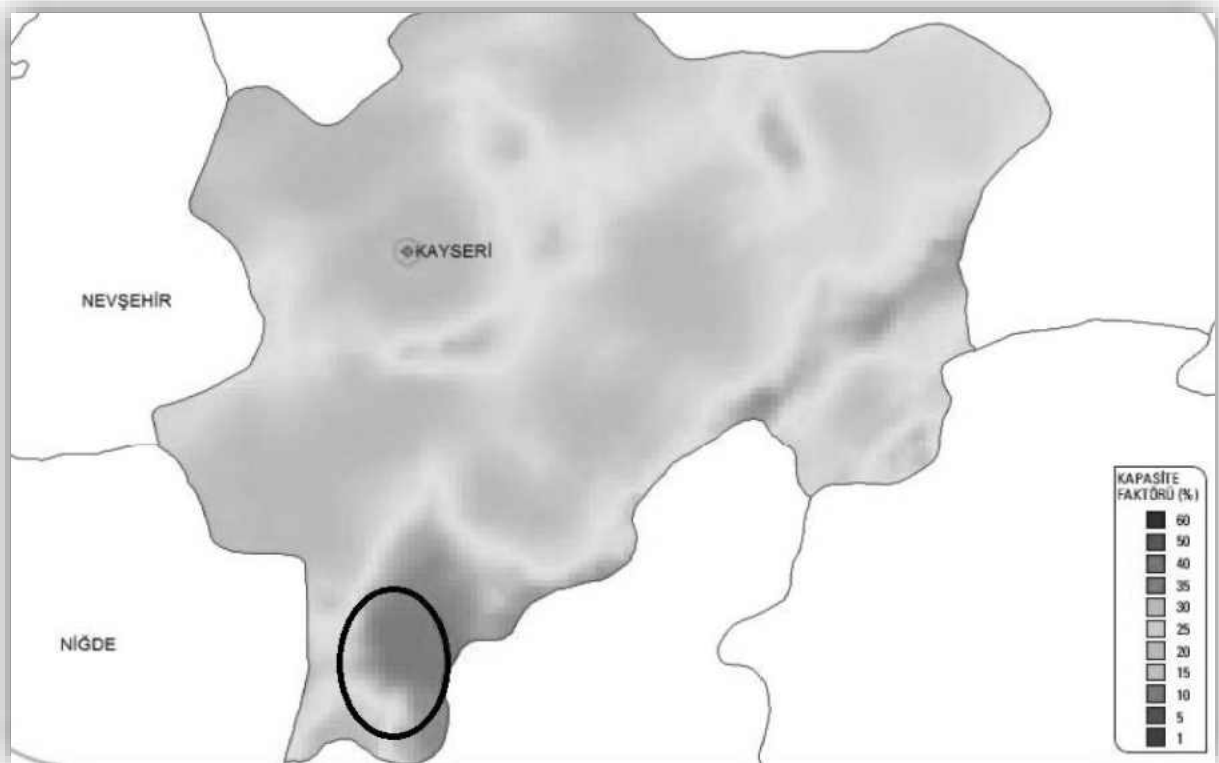


Figure VII.1. Capacity Factor Distribution in Kayseri Province (REPA)

In the wind data evaluation in the project, Vortex data is used. The Vortex was designed by a team of wind engineers, atmospheric physicists and computer experts

experienced in the wind energy industry. It is an atmospheric modeling system and a meso-scale wind data source. In line with VORTEX's goal of providing sensitive and up-to-date information, in the last year, Vortex SERIES and Vortex MAST tests have been made in many parts of the world, including Turkey in order to have the technology developed and the data obtained approved by the leading institutions of the wind energy sector,

Among the windy areas determined on the basis of the province, the most suitable area in terms of topography was chosen as the project area. In this area, the position of the virtual measuring station has been determined at 100 meters. Measurement Report has been prepared by Vortex based on this station. According to this report; Two figures have been analyzed.

-Wind Direction: Dominant wind direction is North, Northwest,

-Wind Speed is 9.0 m/sec on average.

In addition, on-site wind measurements are taken with the measurement pole installed in the field.

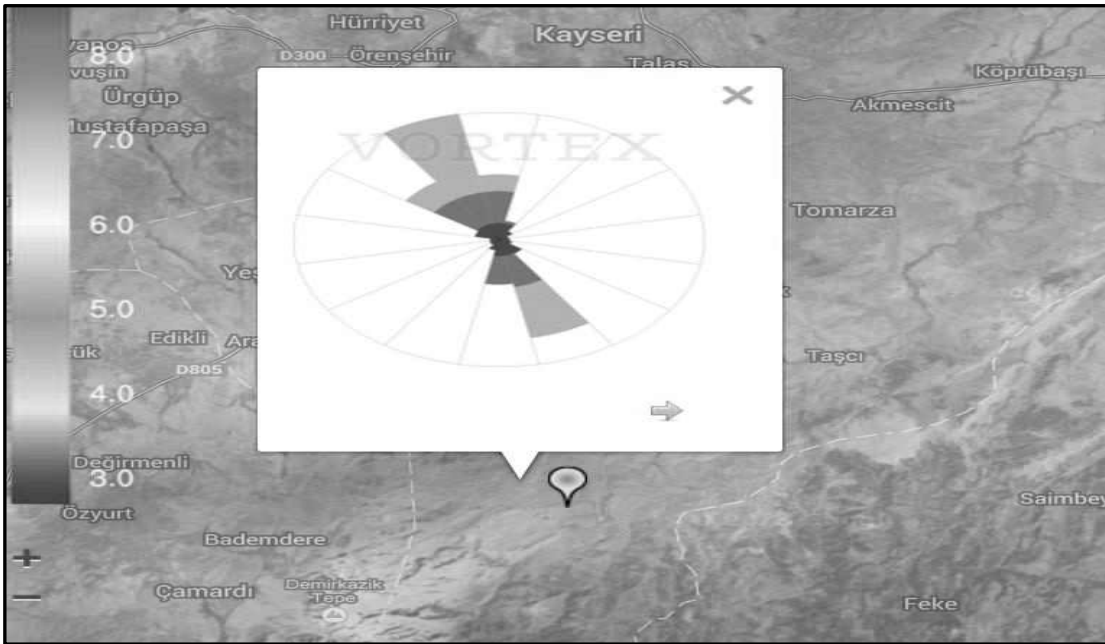


Figure VII.2. Dominant Wind Direction According to Vortex Data

Detailed wind measurements and site selection in the candidate regions where wind farms are established, are the main factor in determining the main characteristics of the facilities. Therefore, there is no alternative to the place chosen as the project area.

Although the wind turbines in use vary widely in size and type, It is generally classified according to the axis of rotation. Wind turbines are divided into two classes according to their axis of rotation as “Horizontal Axis Wind Turbines” (YERT) and “Vertical Axis Wind Turbines” (DERT).

In Horizontal Axis Wind Turbines, the axis of rotation is parallel to the wind direction. Their wings are at right angles with the direction of the wind. Commercial turbines are generally horizontal axis. The rotor is placed on a turntable to receive the best wind.

In vertical axis wind turbines, the turbine shaft is vertical and perpendicular to the direction of the wind. There are varieties such as Savonius type and Darrieus type. It was produced mostly for experimental purposes. It has very little commercial use.

The Horizontal Axis Turbine Model, which is more commercially efficient, has been chosen for the wind farm planned to be established. The following features have been taken into consideration in the turbine model and capacity selection,

- Wind characteristics
- Turbine characteristic and performance
- Economic lifetimes and warranties of turbines
- Tried and working turbines and their performance
- Connection features to the interconnected system
- Price and financing
- Minimizing the Effect of Noise and Interference
- Minimum Environmental Impact
- Service and Maintenance Facilities
- Technology

In this context, Considering the technological, environmental and visual effects, The tubular tower design made of light materials such as fiberglass has been preferred to the steel tower design.

The project, which is the subject of the report, is to meet the energy needed in a clean and economical way from the wind potential, which is one of the renewable energy sources.

The technology planned to be used in the facility, as in the technologies used in similar facilities, is a technology that aims to produce energy even from low wind speeds. there is no alternative for the project location and the technology to be used in the project since the prevailing winds are found in the wind measurement results of the project location in the micro-siting studies carried out in the project area, the wind speeds have the potential and intensity to produce energy permanently, The aforementioned project is a more environmentally friendly and cheaper method when compared to other methods (HEPP, Thermal Power Plants, etc.) of electrical energy generation, which has become one of the most important needs of our country.

PART VIII: MONITORING PROGRAM**VIII.1. The proposed monitoring program for the construction, operation and post-operation of the activity, and the emergency response plan, the Environmental Management team.**

In the project, the Environmental management team shall be determined and formed according to the stage during the construction monitoring period. It shall be appropriate to carry out Ornithological Monitoring studies of the project for at least two periods and to carry out monitoring studies by an expert ornithologist in this context.

The environmental impacts to occur during the construction works of the project and the monitoring program planned to be implemented against these impacts are given below according to the nature of the impacts.

During the construction period, collection of domestic wastewater in the septic tank and disposal by vacuum truck should be monitored.

*** Monitoring of Solid Waste**

Among the solid wastes to be generated during the construction processes of the project, there are municipal wastes of domestic nature from the personnel and solid wastes from the construction processes.

Separate collection of recyclable municipal waste from the personnel during the construction, accumulation and disposal in appropriate closed containers should be monitored.

It should be monitored that the wastes to be generated during the works to be carried out in the field during the construction processes should not be left in the area, and that the evaluable ones should be collected separately.

***Monitoring Emissions**

Exhaust emission measurements of vehicles and diesel generators to be used during construction and obtaining related documents should be monitored.

*** Monitoring Noise**

Noise shall be generated from the construction machinery to be used during the construction phase of the project. Necessary measures should be followed to ensure that the noise level arising from machinery and equipment does not exceed the limit values during the works.

***Waste Oils and Hazardous Waste Monitoring**

Hazardous wastes include waste oils and oily machine parts that arise as a result of oil changes of machinery and equipment etc. that occur during the construction processes of the project.

It should be monitored to be taken necessary measures to reduce the harmful effects of waste oils on the environment during oil changes to be made in the field during the works, storage, transportation and disposal methods of the wastes.

It should be monitored Separate collection of the evaluable parts of the oily parts that are released due to the repair, maintenance and similar processes of the machines and proper disposal of those that cannot be utilized.

*** Ecological Monitoring Studies**

The effects of the construction works to be carried out in the project on the existence of natural flora and fauna and ornithologically should be monitored.

***Social Impact Monitoring Studies**

Determining the positive or negative effects of the project on the people living in the region should be monitored. For this purpose, Opinions should be obtained from the Governorship, District Governorship and Municipality, where the construction works are carried out, and it should be questioned whether there are any complaints.

The Environmental Management Monitoring Plan of the project can be made in line with the criteria determined in the table below.

Table VIII.1.1. Monitoring Plan

Parameter to be monitored	Viewing Location	Monitoring Phase	Monitoring Time	Monitoring Method	Responsibility
Construction Phase					
Air Quality	Construction Areas, Access Roads, Material Storage Areas, Highway-Transportation Roads Intersection Points, Construction Machinery Exhaust Emissions, Settlements,	Protecting the environment and other uses within the impact area and reducing the effects on these areas,	During Construction Works	Possible Complaint and visual inspection, measurement if necessary	Construction company
Soil Quality	Construction Sites, Access Roads, Material Storage Areas	Separate excavation, storage and use of vegetative soil in the working areas,	During Construction Works	Visual Inspection	Construction company
Water Quality	Construction Site	Disposal of domestic waste water to be generated at the construction site	During Construction Works	Vacuuming	Construction company
Solid Wastes, Excavation Wastes and Waste	Construction Site, Material Storage Areas,	Disposal of domestic wastes and recyclable wastes to occur in the construction site, recovery of excavation and waste materials to be formed during the Works	During Construction Works	Visual Inspection	Construction company
Noise and Vibration	Construction Sites, Transportation Routes, Noise Generating Units, Settlements,	Reducing the effects that may be on the living life within the impact area,	During Construction Works	Possible Complaint and auditory examination,	Construction company

Hazardous Wastes	Construction Site,	Following the storage and disposal of hazardous wastes (waste oils etc.) that will occur in the work area and at the construction site with appropriate methods	During Construction Works	Visual Inspection	Construction company
Land Arrangement	Construction Site, Material Storage Areas, Transportation Routes	Following the completion of the construction activities in the working areas, the arrangement of the area in accordance with the previous use or the use of the surrounding areas	During Construction Works	Visual Inspection	Construction company
Parameter to be monitored	Viewing Location	Monitoring Phase	Monitoring Time	Monitoring Method	Responsibility
Operation Phase					
Water Quality	Plant Area,	Disposal of domestic waste water to be generated in the facility,	During Operation Phase	Vacuuming	Business Firm
Solid Wastes,	Powerhouse Area (Administrative Office)	Following the disposal of domestic wastes and recyclable wastes to be generated in the Administrative Office	During Operation Phase	Visual Inspection	Business Firm
Noise and Vibration	Turbines	Its impacts to Nearby Settlements	During Operation Phase	Making measurements and auditory examination,	Business Firm
Hazardous Wastes	Plant Area	Follow-up of temporary storage and disposal with appropriate methods in the facility area	During Operation Phase	Visual Inspection	Business Firm

Ornithological Monitoring	Power Plant Site	Autumn and Spring Bird Migration Period	At least two terms	Record keeping and reporting by the Expert Ornithologist	Business Firm
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Project-specific Emergency Response Plans shall be prepared when the project is implemented and an Occupational Safety Specialist shall be available. However, the general Emergency Response Plan is presented in ANNEX :22.

VIII.2. If EIA Positive Certificate is given, The program related to the realization of the issues in the fourth paragraph of the title of "Responsibilities of the institutions/organizations that have received the Competence Certificate" in the Competence Communiqué.

As stated in the letter of the Ministry of Environment and Urbanization dated 17.02.2017 and numbered E.2766, The notifications of the 14th Chamber of the Council of State regarding the beginning and construction period of the projects that have received an EIA Positive decision on the basis of 2016/3233 have been stopped. Following a second legal regulation, Notifications Regarding the Beginning and Construction Period of the Investment shall be prepared by the institutions/organizations authorized by the Ministry in the periods to be determined and can be submitted to the Ministry of Environment and Urbanization.

PART IX: PARTICIPATION OF PUBLIC

(How and by which methods the local people who are likely to be affected by the project are informed, the opinions of the people about the project and the explanations about the subject are reflected in the EIA Report)

In accordance with the EIA Regulation regarding the Erciyes WPP project, Public Participation Meeting was held at 14.00 in Çamlıca Village Village Room on 27.10.2017 in order to inform the audience and receive their opinions and suggestions.

In order to announce the meeting to the local people before the public participation meeting, an advertisement was published in a local newspaper published throughout the country and the region for one day, stating the subject of activity, meeting place and time.

At the meeting held on the date and time announced as a result of the studies mentioned above, the local people were informed about the project and their opinions and suggestions were received.

The main topics covered in the Public Participation Meeting are as follows: providing employment to the people of the region during construction and operation, supplying of skilled workers, what will be the electromagnetic effects, using of pastures, Whether turbines have an impact on beekeeping activities. Necessary explanations have been made and the measures to be taken have been mentioned. Necessary answers were given by the project owner to address the concerns of the public on this issue. The meeting agenda regarding the questions asked and the answers given in the Public Participation Meeting was recorded under the management of the Provincial Directorate of Environment and Urbanization. Minutes of the Public Participation Meeting are presented in ANNEX :21.

Figure IX.1. Photos from the Public Participation Meeting



PART X: CONCLUSIONS

(A summary of all the explanations made, a general assessment in which the significant environmental impacts of the project are listed and the extent to which the project will be successful in preventing negative environmental impacts, choices among alternatives within the scope of the project and the reasons for these choices)

By ENERJİSA Enerji Üretim A.Ş., Erciyes Wind Power Plant with an installed capacity of 65 MWm/65 MWe is planned to be established and operated in Locations of Kayseri province, Yahyalı district, Çamlıca and Yenice Neighborhood, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills. Within the scope of the project, a pre-license application has been made to EMRA (Energy Market Regulatory Authority) on 28.04.2015. Within the scope of the Competition Regulation on Pre-license Applications to Establish a Generation Facility Based on Wind and Solar Energy, Competitions were held on 21.06.2017, ENERJİSA Enerji Üretim A.Ş. is entitled to 65 MW capacity allocation for Erciyes WPP.

With the decision of the Energy Market Regulatory Board dated 05.10.2017 and numbered 7322-27, a pre-license has been granted for 36 months (See Annex: 6), in accordance with the Electricity Market Law No. 6446, in order to obtain the necessary approvals, permits, licenses and the like in order to start the investment of the 65 MW installed power ERCIYES Wind Energy Power Plant (WPP) project, which will be built within the borders of Yenice and Çamlıca neighborhoods of Yahyalı district, in Kayseri province.

Through 25 wind turbines with a capacity of 2.6 MWm/2.6 MWe planned to be installed in the project, It is planned to produce 227,500,000 kWh of energy annually. The generated electrical energy shall be transferred to the national grid by making an Input Output to the existing 154 kV Çamlıca 1 HEPP TM-Yeşilhisar TM Energy Transmission Line in the east of the field with a line of approximately 1 km.

✓ **Liquid Waste**

There is wastewater generation resulting from the use of personnel during the construction and operation phase of the project. Waste water to be generated shall be collected in the existing impermeable septic tank built in the administration building. As the wastewater collected in the septic tank is filled, by a private vacuum truck company, it shall be drawn for a fee and disposed of in the wastewater network of Kayseri Municipality.

While applying this process, the principles of the "Regulation on Pits to be Made in Places where Sewer Constructing is Impossible", which was published in the Official Gazette dated 19.03.1971 and numbered 13783, shall be followed.

At every stage of the project, it shall be complied with 'Water Pollution Control' regulation, published in the Official Gazette dated 31.12.2004 and numbered 25687 and The provisions of the “Regulation on Amending the Water Pollution Control Regulation”, which came into force after being published in the Official Gazette dated 13.02.2008 and numbered 26786.

✓ **Domestic Municipal Wastes and Packaging Wastes**

During the construction phase of the project, domestic municipal waste and packaging waste shall be generated. Evaluable packaging wastes shall be separated into paper, glass, plastic, and metal forms and shall be collected in closed garbage bins or in durable garbage bags to be recycled. Domestic municipal wastes shall be collected in closed garbage bins or durable garbage bags and shall be collected from the field by Yahyalı Municipality. Domestic municipal wastes and packaging wastes shall not be left to the field haphazardly and shall not be abandoned to nature.

Regarding the disposal of municipal waste, It shall be complied with the provisions of the "Waste Management Regulation" which entered into force after being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016) and the provisions of the "Packaging Waste Control Regulation", which came into force after being published in the Official Gazette dated 24.08.2011 and numbered 28035, on the collection, recovery and disposal of packaging wastes.

✓ **Construction Waste**

These wastes shall be recovered or disposed of in accordance with the Waste Management Regulation. Sheet metal and metal parts, packaging and boxes, timber wastes etc., which are in the evaluable class of materials to be used in construction, considering the chemical properties of these wastes, paper and paper products shall be collected separately as plastic waste and shall be accumulated and recycled by giving them to licensed recycling companies.

✓ For the recovery and disposal of construction waste in the project, It shall be complied with "Waste Management Regulation" which entered into force by being published in the Official Gazette dated 02.04.2015 and 29314 (Amended: OG-23/3/2017-30016) and communiqués issued within the scope of this regulation.

✓ **Excavation Wastes**

During the excavation of the turbine foundations and the construction of the turbine connection roads, there is excavation and vegetative soil formation in the project. The laying of turbine cables will be carried out along the service roads, and since the excavated soil is laid back without waiting, there shall be no excavation formation.

Excavation material shall be stored for a short time in the temporary excavation storage areas selected to be used as filling material for covering the turbine foundations, site arrangement and roads to be built in the field.

The vegetative soil shall be laid on the sides of the inner-site roads to be opened, with the living part on top. It shall be ensured that the soil can adapt to the area it is in and maintain its vitality. In order to prevent the vegetative soil from being affected by wind and precipitation, it shall be germinated or covered with nylon. It shall be laid on the sides of the inner-site roads to be opened later and around the turbine with the live part on top. It shall be ensured that the soil can adapt to the area it is in and maintain its vitality.

Excavation material, which is expected to be formed during the excavation of the turbine and transformer foundations in the project, shall be temporarily stored in the warehouse area, and It shall be ensured that dusting and scattering are prevented. This stored excavation material shall be used as filling material in the inner-site roads and turbine foundations to be opened later.

During all these processes, it shall be complied with the The provisions of the "Regulation on Control of Excavated Soil, Construction and Demolition Wastes", which was published in the Official Gazette dated 18.03.2004 and numbered 25406.

✓ **Waste Oil and Hazardous Wastes**

Waste oils may occur as a result of oil changes of the construction equipment to be used during the construction phase of the Plant. During the construction, maintenance, repair, oil and filter changes of construction equipment and transportation vehicles shall be carried out at licensed fuel stations. However, in unforeseen (breakdown, etc.) cases, Minor repairs shall be carried out on the field, with reinforced concrete floors, by informing the authorized services. If waste oil or oily wastes occur during these repairs, these wastes shall be collected in containers and delivered to licensed waste disposal facilities by licensed transportation vehicles authorized by the Ministry of Environment and Urbanization.

In the operation phase of the project, Maintenance and repair works shall be supported by the manufacturer company that provides technical support in the Erciyes WPP project. The wastes generated during the maintenance and repair works at other wind power plants belonging to the operator are given below.

Wastes	Miktar
130113 Other Hydraulic Oils	300 kg
150110 Packages containing Residues of Hazardous Substances or contaminated with hazardous materials	10 kg
150202 Coded Oils contaminated with hazardous substances, filter materials	

(oil filters unless otherwise specified), cleaning cloths, protective clothing	500 kg
160601 Coded Lead Batteries	1126 kg
Oil mixtures and grease from oil and water separation except from 190810 190809	87 kg
200121 fluorescent lamps and other mercury-containing waste	5 kg
160107 Coded Oil Filters	500 kg

Accordingly, it is thought that these wastes generated in the turbine shall be in similar amounts for Erciyes WPP.

Waste oils and other hazardous wastes shall not be stored on site in the project. During the oil changes to be made in 6-month periods, the waste oils are taken into sealed containers and not kept in the field. It shall be given to disposal facilities licensed by the Ministry of Environment and Urbanization with licensed transportation vehicles. Documents taken from disposal facilities will be kept to be shown to the authorities. Since oil changes are carried out in a closed area inside the turbine, there is no contact with the receiving environment such as soil and water.

The transformer oil used in the transformer station can be used under normal conditions without losing its properties until the end of the service life of the transformer station and power transmission line. In this context, Periodic oil changes are not made for transformers. In order for waste oil to occur in transformers, either a fault must occur in the transformer and the oil must leak out, or if any abnormality is detected in the transformer oil, the oil needs to be changed. There is no oil change for any reason other than these situations. The probability of this happening is very low. If waste transformer oil is produced for any similar reason, action shall be taken in line with the provisions of the Waste Management Regulation, after determining the waste code and category of the waste oil and whether it contains PCBs (Indicator Polychlorinated Bifen).

In the case of oil change , the waste oil that will come out of the transformer center shall be around 20 liters maximum. Since transformer oil is very expensive, it is a sought-after material for recycling. The changed transformer oil shall be delivered to licensed waste disposal facilities by licensed transport vehicles in a closed system without being stored. Documents taken from disposal facilities shall be kept to be shown to the authorities.

Hazardous Wastes shall be temporarily stored for less than 6 months in accordance with the criteria determined according to their types at the place where they are produced within the scope of Article 13 of the Waste Management Regulation, shall be classified according to their characteristics. On the temporarily stored waste, there shall be a hazardous or non-hazardous waste inscription, the waste code, the amount of waste stored and the date of storage. The wastes shall be stored temporarily so that they do not react with each other.

The areas/containers where the hazardous waste is temporarily stored/will be stored by the waste producers producing less than one thousand kilograms of hazardous waste per month as specified in the Waste Management Regulation are exempt from the temporary storage permit. In accordance with the provision, waste producers who produce one thousand kilograms or more of hazardous waste per month obtain a temporary storage permit from the provincial directorate for their temporary storage areas/containers, Temporary storage permission shall be obtained from the provincial directorate, for temporary storage areas, if the waste is more than 1,000 kg. In case of a change in the temporary storage area, the temporary storage permit shall be renewed.

In the project; it shall be complied with “Waste Management Regulation” which entered into force after being published in the Official Gazette dated 02.04.2015 and 29314 and The provisions of the “Regulation on Control of Waste Oils”, which entered into force after being published in the Official Gazette dated 30.07.2008 and numbered 26952 (Amended: OG-5/11/2013-28812).

✓ **Waste Vegetable Oils**

During the construction and operation phase of the project, the food needs of the personnel will be provided by the licensed catering companies to which an agreement shall be made. For this reason, there is no production of vegetable waste oil in the construction area.

If the meals are to be cooked in the facility cafeteria, The vegetable waste oils shall be collected in closed containers. According to the provisions of the "Regulation on Control of Waste Vegetable Oils", which came into force by being published in the Official Gazette dated 06.06.2015 and numbered 29378, It shall be given to recycling companies licensed by the Ministry of Environment and Urbanization. Documents received from recycling companies shall be kept for 5 years to be submitted to the authorities.

The provisions of the "Regulation on Control of Waste Vegetable Oils", which entered into force after being published in the Official Gazette dated 06.06.2015 and numbered 29378, shall be followed.

✓ **Consumables Waste (Waste Battery, Battery, Toner, Fluorescent)**

The maintenance of the construction machines to be operated within the scope of the project will be carried out at authorized services and no waste accumulators shall be formed within the facility. After the batteries, fluorescent lamps and printer toners to be used in the administration building have completed their life, they shall be stored in closed containers separately from other wastes in the facility area according to the provisions of the Waste Batteries and Accumulators Control Regulation and Waste Management Regulation, and shall be given to recycling companies licensed by the Ministry of Environment and Urbanization.

Documents taken from disposal facilities shall be kept for 5 years to be submitted to the authorities.

It shall be complied with The provisions of the Waste Batteries and Accumulators Control Regulation (Amendment: OG-5/11/2013-28812) published in the Official Gazette dated 31.08.2004 and numbered 25569.

✓ **End-of-life Tires**

Within the scope of the construction works of the project, waste tires arising from machinery and equipment shall be disposed of by giving them to licensed recycling companies. No waste tires shall be stored at the project site.

It shall be complied with the provisions of the "Regulation on Control of End-of-Life Tires" (Amended-10/11/2013-28817), which was published in the Official Gazette dated 25.11.2006 and numbered 26357.

✓ **Emissions**

It is expected that exhaust emissions shall occur due to the construction equipment to be used in the construction phase of the project. Emissions expected to occur during the construction and operation phases of the project are CO, CO₂, SO₂, NO_x and dust. Emissions that are expected to occur due to the exhaust of the vehicles and the fuel to be used in the boilers are below the limit values. Exhaust emission inspections of the construction machines and vehicles to be used shall be carried out regularly and it shall be documented that they meet the limit values determined for exhaust emissions. In addition, it shall be complied with "Regulation on Exhaust Gas Emission Control and Gasoline and Diesel Quality", published in the Official Gazette dated 30.11.2013 and numbered 28837, for the exhaust gases of vehicles and The provisions of the "Exhaust Gas Emission Control Regulation", published in the Official Gazette dated 11.03.2017 and numbered 30004.

After the units come into operation, electrical energy shall be used to warm up the workers, and there shall be no use of fuel for heating purposes. In addition, gas emissions from wind turbines shall not occur, and there is no source of gas emission during the operation of the Plant.

During the operation phase of Erciyes Wind Power Plant, there shall be no activity that create dust emission. During the construction phase of the Erciyes Wind Power Plant, Dust generation may occur during the construction of the roads between turbines in order to easily carry out maintenance and repair works to be carried out on turbines and energy transmission organs, and during the Arrangement of platforms in order for the construction machines to move easily within the area where the turbines are installed, During the turbine foundation excavation.

During the construction works to be carried out in the wind power plant area, road arrangement, turbine construction and switchyard construction shall not be done simultaneously, but shall be carried out in successive periods. In addition, For cumulative evaluation and worst case scenario consideration, The cumulative sum of dust emissions to be occurred at all stages has been taken into consideration. In uncontrolled conditions, which are made by considering the worst conditions and assuming that no measures are taken, The cumulative total of the emission flow rate is calculated as 62.4037 kg/hour and The cumulative total of the emission flow rate under controlled conditions, when the measures specified in the relevant regulations are taken, is calculated as 31.197 kg/hour. As a result of the calculations, during the activities to be carried out, dust emissions likely to occur in the field under uncontrolled and controlled conditions, since it is above the value of 1 kg/hour given in the Regulation on Control of Industrial Air Pollution, has been evaluated within the scope of the regulation by calculating the contribution values to air pollution in the project impact area.

In air quality modeling studies, "The Lakes Environmental AERMOD View program", which is used licensed by Ennotes Çevre Mühendislik Danışmanlık Elektrik Proje Taahhüt San. ve Tic. Ltd. Şti. (License No: AER0005591), has been used. AERMOD 16216r version, which is the latest version of AERMOD published by US EPA on 20.12.2016, has been used in the program.

In the project, it is assumed that all units for which emission calculations are made work at the same time. While determining the distribution of dust emissions from the project, 2 different scenarios have been studied, taking into account the working technology and the structure of the region. These scenarios can be summarized as follows.

Scenario 1: Examining the cumulative emissions distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under uncontrolled operating conditions.

Scenario 2: Examination of the cumulative emission distribution from the plant and background (Section 2.2 Cumulative emissions part) dust emissions under controlled operating conditions.

Annual average HKKD (Contribution Value to Air Pollution) shows the average of HKKD calculated using the meteorological data of 2013. It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION). It shows the maximum daily (24 hour) average values of HKKD (Contribution Value to Air Pollution), with the use of one year meteorological data, It shows the values of the day with the highest HKKD calculated for each day (by taking 24-hour averages). It has been compared with the UVS (Long Term Limit Value) values specified in SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION).

The HKKD (Contribution Value to Air Pollution) obtained for PM10 and Settled Dust emissions is below the limit values specified in the SKHKKY. The cumulative maximum daily average HKD value calculated for PM10 does not exceed the targeted KVS (Short Term Limit Value) value given in the SKHKKY (REGULATION ON CONTROL OF INDUSTRIAL AIR POLLUTION) more than 35 times.

As a result, Dust emissions from the Erciyes Wind Power Plant Project with an installed power of 65 MWm / 65 MWe planned to be realized by ENERJİSA ENERJİ ÜRETİM A.Ş. in Kayseri province, Yahyalı district, Çamlıca and Yenice districts, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills, shall be ensure that it remains within regulation limit values. Implementation of the control measures specified in the regulations and standards shall prevent the negative air quality changes that may occur at the receiving points (Settlements, sensitive uses, etc.) by reducing the dust emission.

In order to minimize dust emission within the scope of the activity, spraying will be done on the roads during the transportation of the excavation soil and the roads shall be kept moist. Trucks shall be covered with tarpaulin etc., and there shall be no tossing during loading and unloading. Wheel cleaning of the vehicles shall be carried out , and measures shall be taken against dusting in the excavation storage areas (Controlled operation).

It shall be complied with the Regulation on Control of Industrial Air Pollution, which was published in the Official Gazette dated 03.07.2009 and numbered 27277 (Amendment: OG 20/12/2014-29211) within the scope of the project, "Air Quality Assessment and Management Regulation", published in the Official Gazette dated 06.06.2008 and numbered 26898 and Provisions specified in the Regulation Amending the Air Quality Assessment and Management Regulation, which came into force after being published in the Official Gazette dated 05.05.2009 and numbered 27219. Limit values in the aforementioned Regulations shall be complied with and shall be worked under controlled conditions.

✓ **Noise Imission**

Calculations have been made with the assumption that all vehicles and equipment work at the same point. During the project, the equivalent noise level likely to be felt in Çamlıca Mahallesi, which is 3,000 meters from the T25 turbine and in Avlağı, which is 3,000 meters from the T15 turbine, is 43,81 dBA. it is observed that this value is below the noise limit value of 70 dBA, which is the limit value for "other sources" among the construction site noises specified in the "Regulation on the Evaluation and Management of Environmental Noise, which was published in the Official Gazette dated 04.06.2010 and numbered 27601". Therefore, the noise levels occurring during the land preparation and construction of the facilities of the project shall not have a negative impact on Çamlıca Mahallesi, which is 3,000 meters from the turbine numbered T25, and Avlağı Mahallesi, which is 3,000 meters away from the turbine numbered T15.

The noise source foreseen during the operation phase is the blades rotating with the wind, gearbox, generator and spare engines. Noise pollution claimed for wind plants is also not at a very high level. The average wind speed was determined as 9 m/s in the Vortex Wind Evaluation studies carried out in the project area. The catalog noise level of the Vestas V100-2.6 MW turbines planned to be used in the project is given as 104.1 dB(A) at 9 m/s. The Lday value likely to be felt in Çamlıca Mahallesi, which is 3,000 meters away from the turbine numbered T25, which are the closest settlements to the power plant during the operation phase, and Avlağı Mahallesi, which is 3,000 meters away from the turbine numbered T15, is 33.41 dBA. L evening value is 38.41 dBA, L night value is 43.41 dBA. Pursuant to Article 22 of the “Regulation on Evaluation and Management of Environmental Noise”; Minimum limit values, in Environmental noise limit values for industrial facilities Table 4, is under the title of

"Areas where residential buildings are dense from areas where commercial structures and noise sensitive uses are located together". For this reason, The amount of noise generated has been compared with the limit values here and L daytime value 65 dBA, L evening value 60 dBA, L night value 55 dBA does not exceed the limit value.

At all stages of the activity, it shall be complied with The provisions of the “Regulation on Evaluation and Management of Environmental Noise”, which came into force after being published in the Official Gazette dated 04.06.2010 and numbered 27601. In addition, measures shall be taken in accordance with the relevant articles of the "Occupational Health and Safety Regulation" dated 09.12.2003 and numbered 25311. Again, as stated in Article-22 of the same regulation, it will be ensured that the employees in the field of activity use headphones, helmets and work clothes etc. in order not to be affected by the noise. It shall be complied with the provisions specified in Article 78.

✓ **Visual Impact**

Wind turbines are tall structures and can be seen from relatively wide places. Some people express concern about the impact of wind turbines on the landscape, while others see them as a symbol of a stylish and elegant, less polluted future.

Shadow flicker and glow is another case of visual impact. During sunrise and sunset, the rotating blades of wind turbines can cause shadow play and shadow flicker. Likewise, the sunlight coming to the polished wings can also reflect around and create a glow effect. These problems can be minimized by painting the blades and turbine with a light matte gray color that matches the color conditions of the day. The visual effect of the aforementioned wind turbines; Considering a clean, environmentally friendly and cheap energy production, devotion from aesthetic pleasure is required.

✓ **Ecological Impacts**

Another environmental impact in wind energy can be considered as the death of birds as a result of hitting the turbine blades. Due to wind energy development, there may be issues such as habitat loss, degradation of breeding grounds or death and injury as a result of turbine blade rotation. However, studies in Europe and the United States concluded that the average number of collisions was no more than two birds per turbine per year. These numbers are incomparable to the millions killed by pesticides, vehicles in traffic, and crashes into buildings each year.

In order to prevent the death of the birds as a result of hitting the blades, Companies producing wind turbines have changed the design of the blades, reducing the rotation speed by increasing the length of the blades or visible to the birds.

Of course, every method of obtaining energy has more or less effects. Compared to other methods, the most harmless type of energy is the wind energy.

Within the scope of the project, Flora-Fauna-Ornithological Evaluation has been carried out by Ornithologist Prof. Dr. S.Levent Turan, Zoologist Dr. Muharrem Karakaya and Botany Expert Prof. Dr. Galip Akaydin, and Field studies have been carried out in the project area on 14.09.2017. Prepared Ecosystem Evaluation Report is presented in Annex: 25.

✓ **Electromagnetic Interference Effect**

Electromagnetic interference is another problem in Wind Power Plants. Studies show that electromagnetic interference affects TV and radio broadcasts, aviation and maritime communications negatively. Interference occurs when a large metal blade wind turbine scatters weak signals between a poor quality receiver and transmitter.

The interference is caused by the blades and body of the wind turbine acting as a mirror. Signals from the receiver are reflected, and reflected signals can interfere with direct signals to the receiver. The worst conditions occur at high frequencies. The electromagnetic interference effect can be overcome by the absence of wind turbines on microwave routes, the use of local amplifiers or cable connections. The electromagnetic interference effect of wind turbines also varies in relation to blade size and material. Noise and electromagnetic interference rates are high in turbines where metal materials are used. This problem can be overcome by manufacturing wind turbine blades from wood, fiberglass or composite based materials.

It has been determined that even in the nearest 10 meters, the electromagnetic effect in the environment remains at a level that is almost non-existent in the analysis and measurement studies carried out by Prof Dr Osman Çerezci, Director of SAU Electromagnetic Research Center (SEMAM), in a similar wind power plant, during the

operation of the turbines of the wind power plant. It has been determined that the electromagnetic environment created by the WPP turbines when they are operating or not is not disturbed much and the natural level is preserved. With the studies carried out as an example, It has been determined that wind power plants shall not create any negative electromagnetic radiation disrupting the environmental habitat while operating.

✓ **Medical Wastes**

Since there is not be an infirmary unit in the project site, there shall no medical waste generation. However, a first aid kit shall be kept ready for possible accidents and injuries. The waste material to be used in first aid shall be transported by licensed carriers after being collected in closed containers and disposed of in licensed companies. The patient or injured who receives first aid shall then be referred to the nearest health institutions. The provisions of the "Medical Waste Control Regulation", which came into force after being published in the Official Gazette dated 25.01.2017 and numbered 29959, shall be complied with.

In the project, It shall be complied with Environmental Law No. 2872, Public Health Law No. 1593, Labor Law No. 4857, Law No. 5491 Amending the Environmental Law and legislation related to the by-laws and regulations issued pursuant to these laws.

APPENDICES

Among the information, documents and techniques used in the preparation of the report and obtained from various institutions, those that cannot be presented in the report text, (Coordinates of the place selected for the project, Zone; Official letter to be received from the Governorship of Kayseri (Provincial Directorate of Environment and Urbanization) regarding the presence of nature and natural sites in the project area; Ornithological-Ecological Evaluation Report; EIA Inspection Evaluation Form with the Opinion of the Regional Directorate of Forestry, etc. information documents)

ANNEX -1: Project Area Coordinates

ANNEX -2 : Location Map

ANNEX -3: 1/25.000 Scale Topographic Map and Layout Plan

ANNEX -4: Approved 1/100,000 Scale Environmental Plan and Legend

ANNEX-5: Property Status Map and Expropriation Plan

ANNEX-6: EMRA Associate License

ANNEX -7 : EIA Format Institutional Opinions

ANNEX -8: Forest Inspection Evaluation Form and Opinion of the General Directorate of Forestry Fighting against Forest Fires

ANNEX -9: Land Asset Map

ANNEX -10: Protected Areas Map and Vegetation Map

ANNEX -11 : Septic Tank Plan and KASKİ Sewage Letter

ANNEX -12: Yahyalı Municipality Letters on Solid Waste Disposal and Water Supply

ANNEX -13: Opinion of Kayseri Metropolitan Municipality Directorate of Reconstruction and Urbanization

ANNEX -14: Opinion of Kayseri Provincial Directorate of Environment and Urbanization, Directorate of Conservation of Natural Assets

ANNEX -15 : Opinion of Kayseri Cultural Heritage Preservation Regional Board Directorate

ANNEX -16 : TEIAS Opinion

ANNEX-17: Opinion of the Ministry of National Defense, General Directorate of State Airports Authority and General Directorate of Civil Aviation

ANNEX -18: MİGEM(General Directorate of Mining Affairs) Opinion

ANNEX-19: Opinion of Ministry of Forestry and Water Affairs, General Directorate of Nature Conservation and National Parks and VII.District Directorate (Adana Regional Directorate of Nature Conservation

ANNEX -20: Opinion of DSI 12th Regional Directorate

ANNEX -21 : Minutes of Public Participation Meeting

ANNEX -22: Emergency Response Plan

ANNEX -23: Landscape Repair Plan Report

ANNEX-24: Social Impact Assessment Report

ANNEX -25 : Ecosystem Evaluation Report

ANNEX -26 : Approved Meteorological Data and Air Quality Distribution Modeling Report

ANNEX -27: On-Site Review Letter

ANNEX -28 : Photos from the Project Area

ANNEX -29 : Project Special Format

NOTES AND SOURCES:

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- Rapor içerisinde bölüm altlarında dipnot olarak verilen kaynak ve kaynakçaların tamamı

Table of Unsigned Personnel Showing the Personnel Responsible for the Departments Committed to Work within the Scope of the Communiqué on the Certificate of Competence of those Who Prepared the EIA Report, (In addition to the group, considering the professional groups that prepared the project introduction file; It has been decided to add the Forest Engineer and Agricultural Engineer profession group). Within the scope of the project, the signature circular, diploma samples and documents etc. containing personal information should not be added to the report, only the diploma samples of the additional personnel required should be uploaded from the additional file section on the e-ÇED system on a project basis)

ANNEX 1
COORDINATES OF PROJECT AREA

Turbine Coordinates					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
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T4	713860.000	4208403.000	T4	37.9965195	35.4351305
T5	714470.000	4208045.000	T5	37.9931518	35.4419647
T6	713260.000	4204671.000	T6	37.9630550	35.4271954
T7	713470.000	4205323.000	T7	37.9688768	35.4297775
T8	713827.000	4205682.000	T8	37.9720255	35.4339450
T9	714276.000	4206030.000	T9	37.9750533	35.4391562
T10	714758.000	4206064.000	T10	37.9752455	35.4446494
T11	715290.000	4205928.000	T11	37.9738949	35.4506604
T12	715955.000	4205415.000	T12	37.9691176	35.4580709
T13	716169.000	4206083.000	T13	37.9750817	35.4607059
T14	716671.000	4205977.000	T14	37.9740076	35.4663844
T16	713902.000	4204447.000	T15	37.9735804	35.4772751
T15	717629.000	4205955.000	T16	37.9608870	35.4344307
T17	714754.000	4204790.000	T17	37.9637745	35.4442233
T18	715217.000	4204809.000	T18	37.9638360	35.4494950
T19	715285.000	4203389.000	T19	37.9510333	35.4498434
T20	715714.000	4203541.000	T20	37.9523003	35.4547675
T21	716188.000	4203548.000	T21	37.9522506	35.4601599
T22	717772.000	4203699.000	T22	37.9532320	35.4782185
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T24	717008.000	4203189.000	T24	37.9488225	35.4693765
T25	717721.000	4202773.000	T25	37.9449061	35.4773584

COORDINATES OF POWER PLANT SITE (EIA AREA)

Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate	Latitude,
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale	Decimal
	E (Easting)	N(Northing)		Y	X (Longitude)
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K5	714379.720	4209206.750	K5	38.0036343	35.4412844
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K118	716201.880	4202617.350	K118	37.9438672	35.4600381
K119	716080.310	4202588.250	K119	37.9436341	35.4586470
K120	715793.000	4202524.260	K120	37.9431261	35.4553610
K121	715745.270	4202532.990	K121	37.9432161	35.4548209
K122	715485.090	4202460.840	K122	37.9426281	35.4518409
K123	715421.220	4202451.610	K123	37.9425601	35.4511119

K124	715344.020	4202460.910	K124	37.9426622	35.4502369
K125	715266.790	4202481.410	K125	37.9428651	35.4493649
K126	715110.080	4202447.200	K126	37.9425941	35.4475728
K127	714788.750	4202533.040	K127	37.9434431	35.4439447
K128	714567.750	4202700.050	K128	37.9449992	35.4414815
K129	714334.530	4202972.020	K129	37.9475032	35.4389106
K130	714276.250	4203283.000	K130	37.9503172	35.4383405
K131	714256.810	4203545.250	K131	37.9526833	35.4381975
K132	714084.420	4203580.260	K132	37.9530392	35.4362475
K133	713859.130	4203529.730	K133	37.9526373	35.4336704
K134	713748.560	4203544.390	K134	37.9527953	35.4324173
K135	713379.690	4203658.250	K135	37.9539073	35.4282562
K136	713107.250	4203895.360	K136	37.9561064	35.4252282
K137	713006.320	4204012.780	K137	37.9571874	35.4241151
K138	712975.460	4204086.940	K138	37.9578624	35.4237861
K139	712887.870	4204408.260	K139	37.9607764	35.4228850
K140	712713.890	4204451.490	K140	37.9612064	35.4209190
K141	712639.700	4204484.430	K141	37.9615204	35.4200850
K142	712559.350	4204548.310	K142	37.9621144	35.4191900
K143	712381.680	4204740.370	K143	37.9638855	35.4172259
K144	712371.960	4205002.650	K144	37.9662495	35.4171928
K145	712430.270	4205235.820	K145	37.9683356	35.4179250
K146	712517.760	4205478.750	K146	37.9705026	35.4189920
K147	712614.850	4205663.290	K147	37.9721417	35.4201510
K148	712780.010	4205877.030	K148	37.9740277	35.4220930
K149	712964.640	4206051.980	K149	37.9755598	35.4242451
K150	713129.800	4206207.420	K150	37.9769207	35.4261700
K151	713254.540	4206379.380	K151	37.9784399	35.4276401
K152	713304.910	4206443.430	K152	37.9790048	35.4282322
K153	713374.010	4206506.980	K153	37.9795608	35.4290371
K154	713546.680	4206684.180	K154	37.9811158	35.4310542
K155	713611.740	4206733.970	K155	37.9815489	35.4318091
K156	713814.420	4206799.020	K156	37.9820869	35.4341343
K157	714067.400	4206926.360	K157	37.9831739	35.4370503
K158	714038.250	4207052.640	K158	37.9843179	35.4367563
K159	713999.340	4207179.010	K159	37.9854650	35.4363513
K160	713781.950	4207368.000	K160	37.9872180	35.4339342
K161	713738.140	4207409.720	K161	37.9876040	35.4334482
K162	713694.260	4207454.430	K162	37.9880170	35.4329623
K163	713523.160	4207385.660	K163	37.9874380	35.4309951
K164	713290.550	4207326.720	K164	37.9869620	35.4283311
K165	713163.800	4207266.440	K165	37.9864489	35.4268711
K166	713018.110	4207217.890	K166	37.9860460	35.4251991
K167	712814.080	4207198.360	K167	37.9859180	35.4228720

K168	712716.900	4207062.340	K168	37.9847159	35.4217260
K169	712668.350	4206887.500	K169	37.9831529	35.4211219
K170	712551.720	4206664.020	K170	37.9811678	35.4197289
K171	712446.500	4206559.440	K171	37.9802507	35.4185009
K172	712260.860	4206369.500	K172	37.9785838	35.4163328
K173	712212.840	4206326.710	K173	37.9782097	35.4157739
K174	712147.160	4206299.690	K174	37.9779817	35.4150187
K175	711984.230	4206253.930	K175	37.9776077	35.4131517
K176	711891.010	4206187.990	K176	37.9770357	35.4120717
K177	711764.710	4206173.390	K177	37.9769337	35.4106306
K178	711594.740	4206168.540	K178	37.9769297	35.4086956
K179	711507.310	4206085.990	K179	37.9762067	35.4076767
K180	711405.380	4206039.810	K180	37.9758146	35.4065036
K181	711357.260	4206044.680	K181	37.9758697	35.4059576
K182	711218.000	4206007.990	K182	37.9755717	35.4043626
K183	711122.800	4205915.900	K183	37.9747646	35.4032525
K184	711004.760	4205870.880	K184	37.9743866	35.4018965
K185	710812.780	4205822.840	K185	37.9739986	35.3996985
K186	710733.450	4205772.820	K186	37.9735666	35.3987814
K187	710599.970	4205733.180	K187	37.9732406	35.3972513
K188	710375.370	4205760.490	K188	37.9735386	35.3947043
K189	710100.740	4205877.020	K189	37.9746516	35.3916143
K190	709737.450	4206238.830	K190	37.9779937	35.3875871
K191	709604.440	4206733.030	K191	37.9824747	35.3862181
K192	709737.400	4207227.190	K192	37.9868939	35.3878751
K193	710098.160	4207553.280	K193	37.9897469	35.3920752
K194	710134.840	4207586.100	K194	37.9900339	35.3925021
K195	710207.510	4207617.620	K195	37.9903009	35.3933382
K196	710395.580	4207669.100	K196	37.9907209	35.3954932
K197	710447.640	4207722.760	K197	37.9911920	35.3961013
K198	710512.140	4207770.500	K198	37.9916070	35.3968492
K199	710580.470	4207796.470	K199	37.9918250	35.3976343
K200	710928.460	4207886.410	K200	37.9925540	35.4016204
K201	710997.850	4207898.420	K201	37.9926461	35.4024134
K202	711059.650	4207890.800	K202	37.9925631	35.4031144
K203	711121.400	4207905.930	K203	37.9926849	35.4038215
K204	711174.510	4207959.060	K204	37.9931510	35.4044414
K205	711233.130	4208003.560	K205	37.9935381	35.4051215
K206	711303.560	4208032.800	K206	37.9937850	35.4059315
K207	711464.780	4208075.400	K207	37.9941310	35.4077786
K208	711531.210	4208136.870	K208	37.9946691	35.4085526
K209	712102.410	4208318.150	K209	37.9961681	35.4151057
K210	712682.590	4209071.410	K210	38.0028152	35.4219308
K211	712758.470	4209103.940	K211	38.0030903	35.4228040

K212	713014.090	4209215.100	K212	38.0040313	35.4257459
K213	713060.000	4209233.850	K213	38.0041893	35.4262740
K214	713395.950	4209327.690	K214	38.0049554	35.4301250
K215	713477.280	4209339.260	K215	38.0050404	35.4310540
K216	713558.700	4209327.720	K216	38.0049173	35.4319772
K217	713583.670	4209320.380	K217	38.0048453	35.4322592
K218	713762.110	4209371.580	K218	38.0052643	35.4343051
Area: 32,562 km ²					

COORDINATES OF SWITCHYARD AREA, ADMINISTRATION BUILDING AND CONTROL ROOM					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ŞALT-1	716324.042	4205656.541	ŞALT-1	37.9712047	35.4623412
ŞALT-2	716350.764	4205655.399	ŞALT-2	37.9711881	35.4626448
ŞALT-3	716359.294	4205654.729	ŞALT-3	37.9711800	35.4627417
ŞALT-4	716370.408	4205652.855	ŞALT-4	37.9711605	35.4628675
ŞALT-5	716468.499	4205620.462	ŞALT-5	37.9708454	35.4639735
ŞALT-6	716474.447	4205618.633	ŞALT-6	37.9708275	35.4640406
ŞALT-7	716486.613	4205616.047	ŞALT-7	37.9708014	35.4641782
ŞALT-8	716492.790	4205615.299	ŞALT-8	37.9707931	35.4642483
ŞALT-9	716499.000	4205614.918	ŞALT-9	37.9707882	35.4643188
ŞALT-10	716505.222	4205614.905	ŞALT-10	37.9707866	35.4643896
ŞALT-11	716498.669	4205561.656	ŞALT-11	37.9703087	35.4642990
ŞALT-12	716459.603	4205482.596	ŞALT-12	37.9696061	35.4638308
ŞALT-13	716404.757	4205462.734	ŞALT-13	37.9694404	35.4632010
ŞALT-14	716275.575	4205503.803	ŞALT-14	37.9698409	35.4617440
Area: 31.044 m ²					

COORDINATES OF EXCAVATION AREA-1					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		

HRF1-1	711028.785	4206972.204	HRF1-1	37.9842984	35.4024933
HRF1-2	711100.689	4206993.530	HRF1-2	37.9844737	35.4033176
HRF1-3	711112.063	4206955.182	HRF1-3	37.9841257	35.4034357
HRF1-4	711040.159	4206933.855	HRF1-4	37.9839504	35.4026114
AREA: 3.000 m²					

COORDINATES OF EXCAVATION AREA-2					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF2-1	713544.789	4208394.201	HRF2-1	37.9965145	35.4315411
HRF2-2	713584.789	4208394.034	HRF2-2	37.9965036	35.4319962
HRF2-3	713584.476	4208319.035	HRF2-3	37.9958283	35.4319704
HRF2-4	713544.477	4208319.201	HRF2-4	37.9958393	35.4315153
AREA: 3.000 m²					
COORDINATES OF EXCAVATION AREA-3					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF3-1	714447.380	4205976.412	HRF3-1	37.9745302	35.4410898
HRF3-2	714521.906	4205967.994	HRF3-2	37.9744368	35.4419350
HRF3-3	714517.416	4205928.246	HRF3-3	37.9740800	35.4418721
HRF3-4	714442.890	4205936.664	HRF3-4	37.9741734	35.4410268
AREA: 3.000 m²					
COORDINATES OF EXCAVATION AREA-4					
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF4-1	715465.048	4205337.656	HRF4-1	37.9685376	35.4524747

HRF4-2	715539.286	4205348.323	HRF4-2	37.9686160	35.4533223
HRF4-3	715544.975	4205308.730	HRF4-3	37.9682581	35.4533752
HRF4-4	715470.737	4205298.063	HRF4-4	37.9681797	35.4525275
AREA: 3.000 m²					
COORDINATES OF EXCAVATION AREA-5					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF5-1	717469.803	4205732.929	HRF5-1	37.9716189	35.4753970
HRF5-2	717543.234	4205748.189	HRF5-2	37.9717387	35.4762369
HRF5-3	717551.372	4205709.025	HRF5-3	37.9713841	35.4763176
HRF5-4	717477.941	4205693.766	HRF5-4	37.9712643	35.4754778
AREA: 3.000 m²					
COORDINATES OF EXCAVATION AREA-6					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF6-1	716751.896	4203407.251	HRF6-1	37.9508489	35.4665300
HRF6-2	716826.140	4203396.624	HRF6-2	37.9507355	35.4673711
HRF6-3	716820.472	4203357.027	HRF6-3	37.9503803	35.4672947
HRF6-4	716746.229	4203367.654	HRF6-4	37.9504937	35.4664536
AREA: 3.000 m²					
COORDINATES OF EXCAVATION AREA-7					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
HRF7-1	718007.942	4203557.728	HRF7-1	37.9519034	35.4808588
HRF7-2	718067.484	4203603.333	HRF7-2	37.9522997	35.4815497
HRF7-3	718091.806	4203571.577	HRF7-3	37.9520080	35.4818167

HRF7-4	718032.264	4203525.973	HRF7-4	37.9516116	35.4811258
AREA: 3.000 m²					
COORDINATES OF VEGETABLE SOIL STOCK AREA-1					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS1-1	711090.383	4207059.755	BS1-1	37.9850724	35.4032198
BS1-2	711187.020	4207085.473	BS1-2	37.9852815	35.4043269
BS1-3	711212.738	4206988.837	BS1-3	37.9844054	35.4045910
BS1-4	711116.101	4206963.119	BS1-4	37.9841962	35.4034840
AREA: 10.000 m²					
COORDINATES OF VEGETABLE SOIL STOCK AREA-2					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS2-1	713540.604	4208313.402	BS2-1	37.9957879	35.4314695
BS2-2	713640.368	4208306.548	BS2-2	37.9957027	35.4326026
BS2-3	713633.514	4208206.783	BS2-3	37.9948060	35.4324950
BS2-4	713533.749	4208213.637	BS2-4	37.9948912	35.4313618
AREA: 10.000 m²					
COORDINATES OF VEGETABLE SOIL STOCK AREA-3					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS3-1	714529.103	4205967.299	BS3-1	37.9744289	35.4420167
BS3-2	714628.784	4205959.322	BS3-2	37.9743335	35.4431482
BS3-3	714620.807	4205859.641	BS3-3	37.9734378	35.4430277
BS3-4	714521.126	4205867.618	BS3-4	37.9735332	35.4418962
AREA: 10.000 m²					

COORDINATES OF VEGETABLE SOIL STOCK AREA-4

Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS4-1	715542.414	4205350.376	BS4-1	37.9686337	35.4533585
BS4-2	715640.881	4205367.819	BS4-2	37.9687674	35.4544838
BS4-3	715658.324	4205269.352	BS4-3	37.9678766	35.4546526
BS4-4	715559.857	4205251.909	BS4-4	37.9677429	35.4535274

AREA: 10.000 m²

COORDINATES OF VEGETABLE SOIL STOCK AREA-5

Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS5-1	717545.807	4205749.376	BS5-1	37.9717488	35.4762666
BS5-2	717642.028	4205776.608	BS5-2	37.9719709	35.4773693
BS5-3	717669.259	4205680.387	BS5-3	37.9710980	35.4776499
BS5-4	717573.038	4205653.156	BS5-4	37.9708758	35.4765472

AREA: 10.000 m²

COORDINATES OF VEGETABLE SOIL STOCK AREA-6

Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS6-1	716829.230	4203391.287	BS6-1	37.9506867	35.4674046
BS6-2	716928.976	4203384.167	BS6-2	37.9505988	35.4685368
BS6-3	716921.856	4203284.421	BS6-3	37.9497023	35.4684257
BS6-4	716822.109	4203291.541	BS6-4	37.9497902	35.4672936

AREA: 10.000 m²

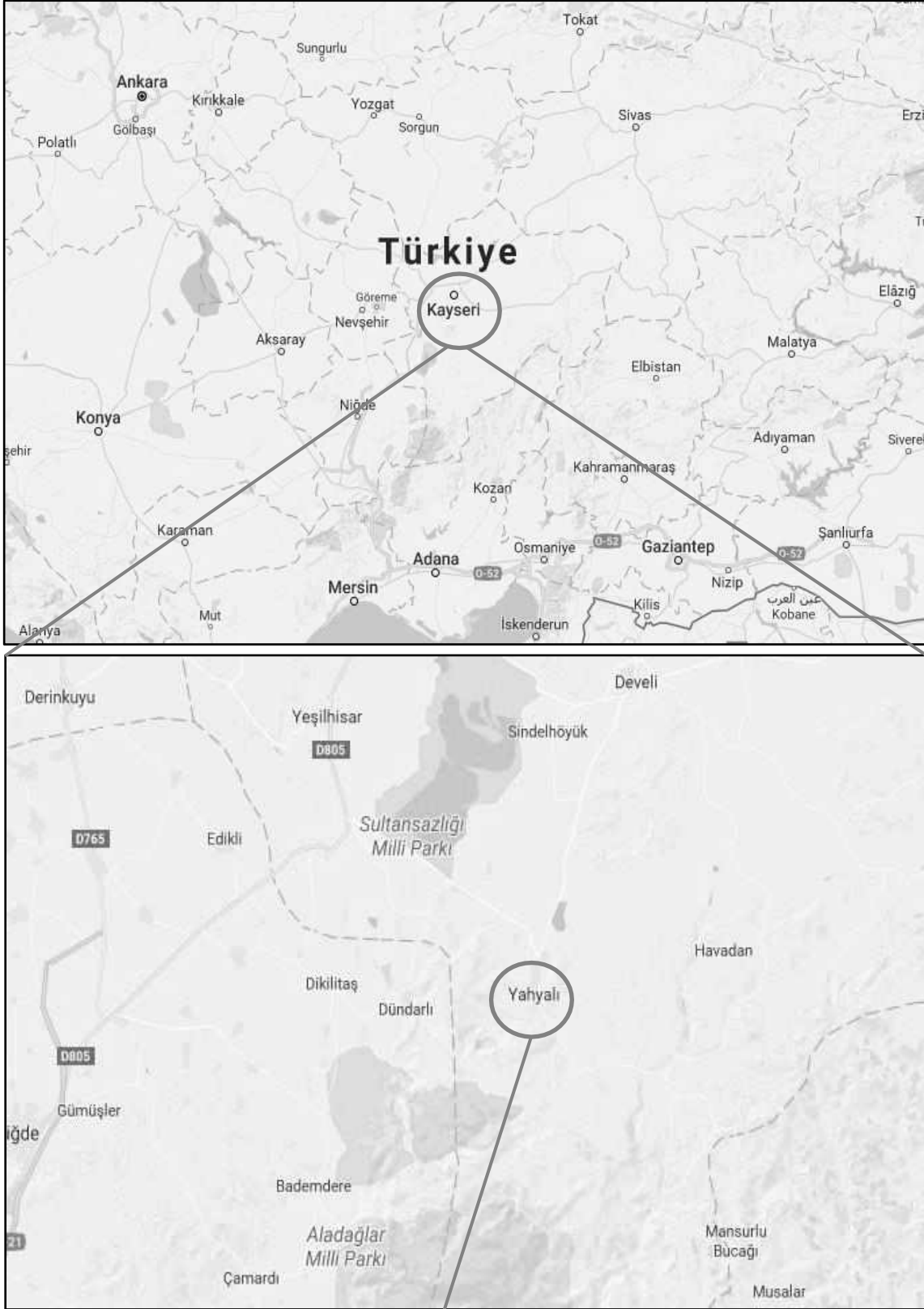
COORDINATES OF VEGETABLE SOIL STOCK AREA-7

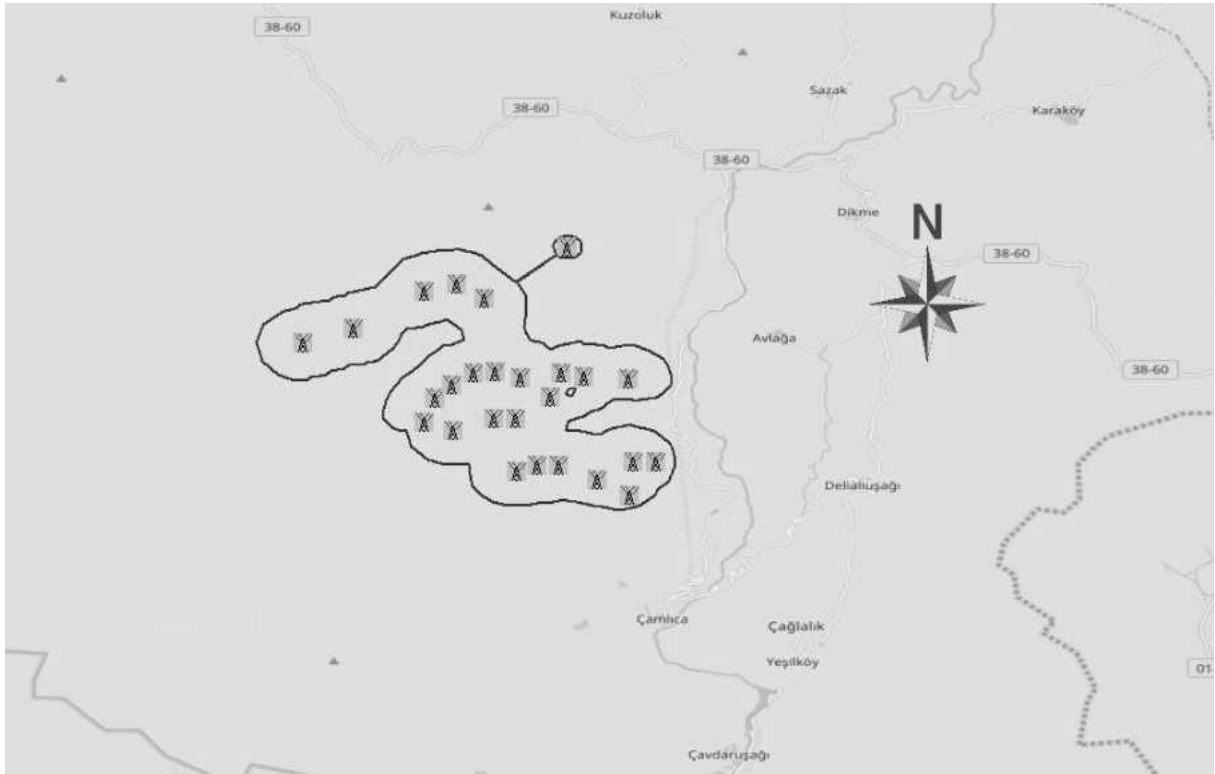
Coordinate No	Coord. No.	Right, Up	Coordinate	Latitude, Longitude
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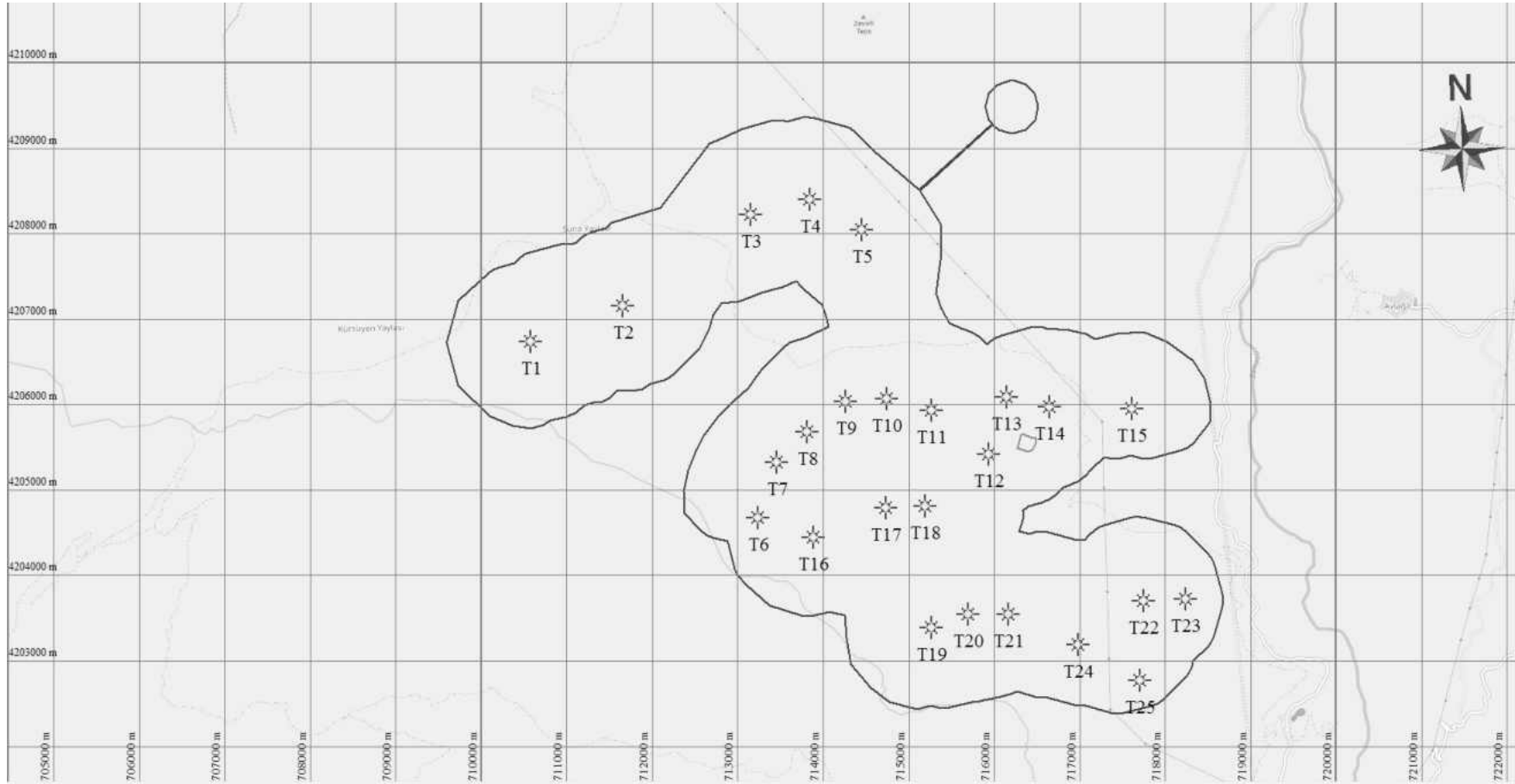
Coordinate No	Datum	ED-50	Coordinate No	Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
E (Easting)	N(Northing)	Y (Latitude)	X (Longitude)		
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
BS7-1	718071.856	4203605.040	BS7-1	37.9523141	35.4816000
BS7-2	718153.599	4203662.642	BS7-2	37.9528131	35.4825470
BS7-3	718211.202	4203580.900	BS7-3	37.9520632	35.4831772
BS7-4	718129.459	4203523.297	BS7-4	37.9515642	35.4822302
AREA: 10.000 m²					
CONSTRUCTION AREA COORDINATES					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
E (Easting)	N(Northing)	Y (Latitude)	X (Longitude)		
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ŞANT-1	716517.742	4205612.489	ŞANT-1	37.9707619	35.4645312
ŞANT-2	716542.742	4205612.489	ŞANT-2	37.9707559	35.4648156
ŞANT-3	716542.742	4205592.489	ŞANT-3	37.9705758	35.4648096
ŞANT-4	716517.742	4205592.489	ŞANT-4	37.9705818	35.4645252
AREA : 500 m²					
COORDINATES OF LEAKPROOF FOSCEPTIC					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
E (Easting)	N(Northing)	Y (Latitude)	X (Longitude)		
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
FS-1	716519.042	4205590.129	FS-1	37.9705602	35.4645393
FS-2	716529.042	4205590.129	FS-2	37.9705579	35.4646530
FS-3	716529.042	4205585.129	FS-3	37.9705128	35.4646515
FS-4	716519.042	4205585.129	FS-4	37.9705152	35.4645378
AREA : 50 m²					
COORDINATES OF TEMPORARY WASTE STORAGE AREA					
Coordinate No	Coor. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC

UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
GÇ-1	716506.373	4205610.041	GÇ-1	37.9707426	35.4644012
GÇ-2	716516.373	4205610.041	GÇ-2	37.9707402	35.4645149
GÇ-3	716516.373	4205600.041	GÇ-3	37.9706501	35.4645119
GÇ-4	716506.373	4205600.041	GÇ-4	37.9706525	35.4643982
AREA : 100 m²					
WIND MEASURING STATION COORDINATES					
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
Coordinate No	Coord. No.	Right, Up	Coordinate No	Coordinate Order	Latitude, Longitude
	Datum	ED-50		Datum	WGS-84
	Type	UTM		Type	GEOGRAPHIC
	Middle Meridian	33		Middle Meridian	--
	Zon	36		Zon	--
	Scale Factor	6 degree		Scale Factor	Decimal
	E (Easting)	N(Northing)		Y (Latitude)	X (Longitude)
UTM COORDINATE FORMAT			GEOGRAPHIC COORDINATE FORMAT		
ROI-1	714645.000	4208036.000	ROI-1	37.9930294	35.4439532
ROI-2	713821.000	4205488.000	ROI-2	37.9702800	35.4338191
ROI-3	716437.000	4205922.000	ROI-3	37.9735681	35.4637060
ROI-4	714735.000	4203753.000	ROI-4	37.9544412	35.4436976

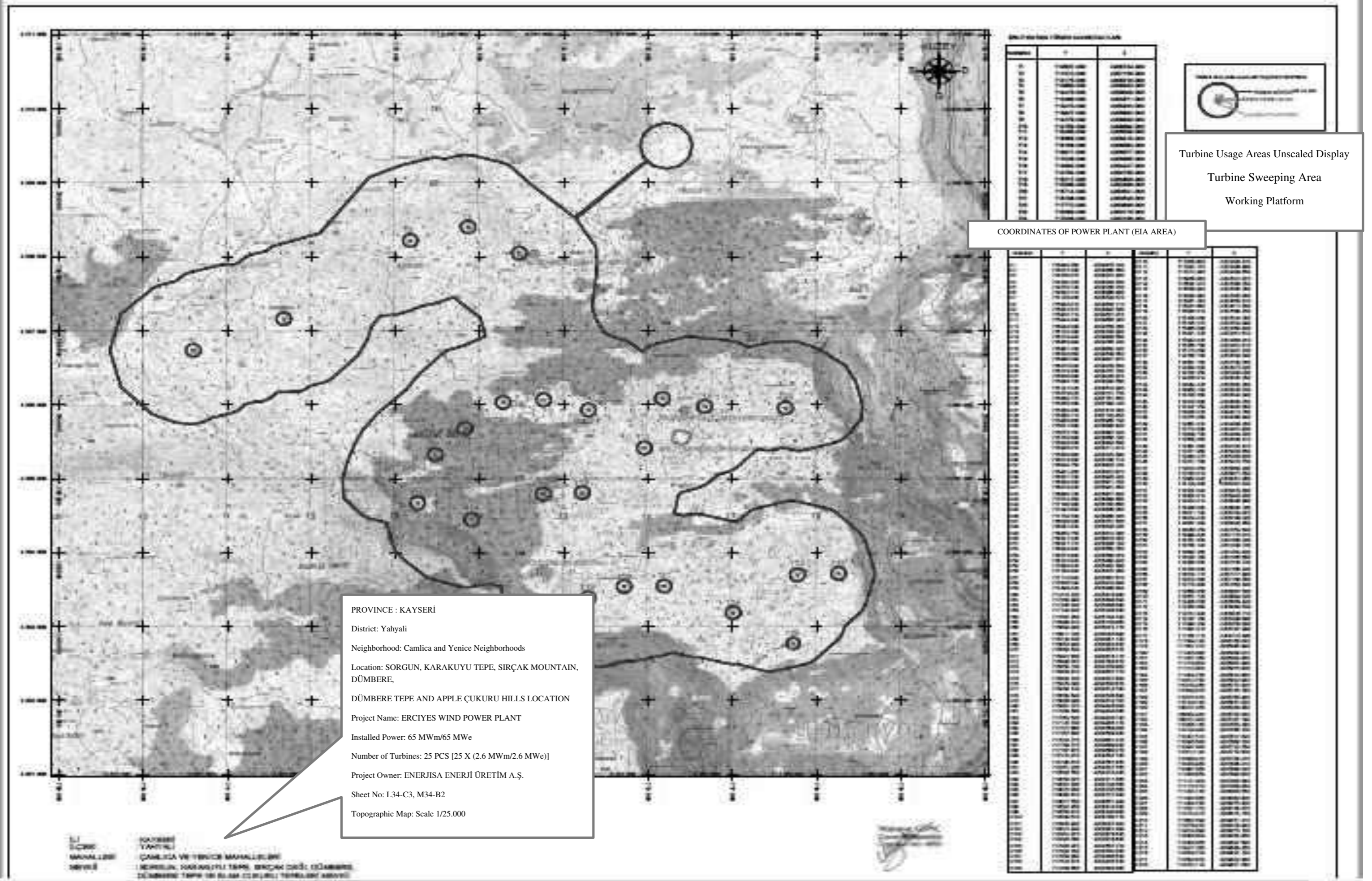
ANNEX -2 Location Map







ANNEX -3
1/25.000 Scale Topographic Map and Layout Plan



PROVINCE : KAYSERİ
 District: Yahyali
 Neighborhood: Camlica and Yenice Neighborhoods
 Location: SORGUN, KARAKUYU TEPE, SIRÇAK MOUNTAIN, DÜMBERE,
 DÜMBERE TEPE AND APPLE ÇUKURU HILLS LOCATION
 Project Name: ERCIYES WIND POWER PLANT
 Installed Power: 65 MWm/65 MWe
 Number of Turbines: 25 PCS [25 X (2.6 MWm/2.6 MWe)]
 Project Owner: ENERJISA ENERJİ ÜRETİM A.Ş.
 Sheet No: L34-C3, M34-B2
 location plan: Scale 1/10.000

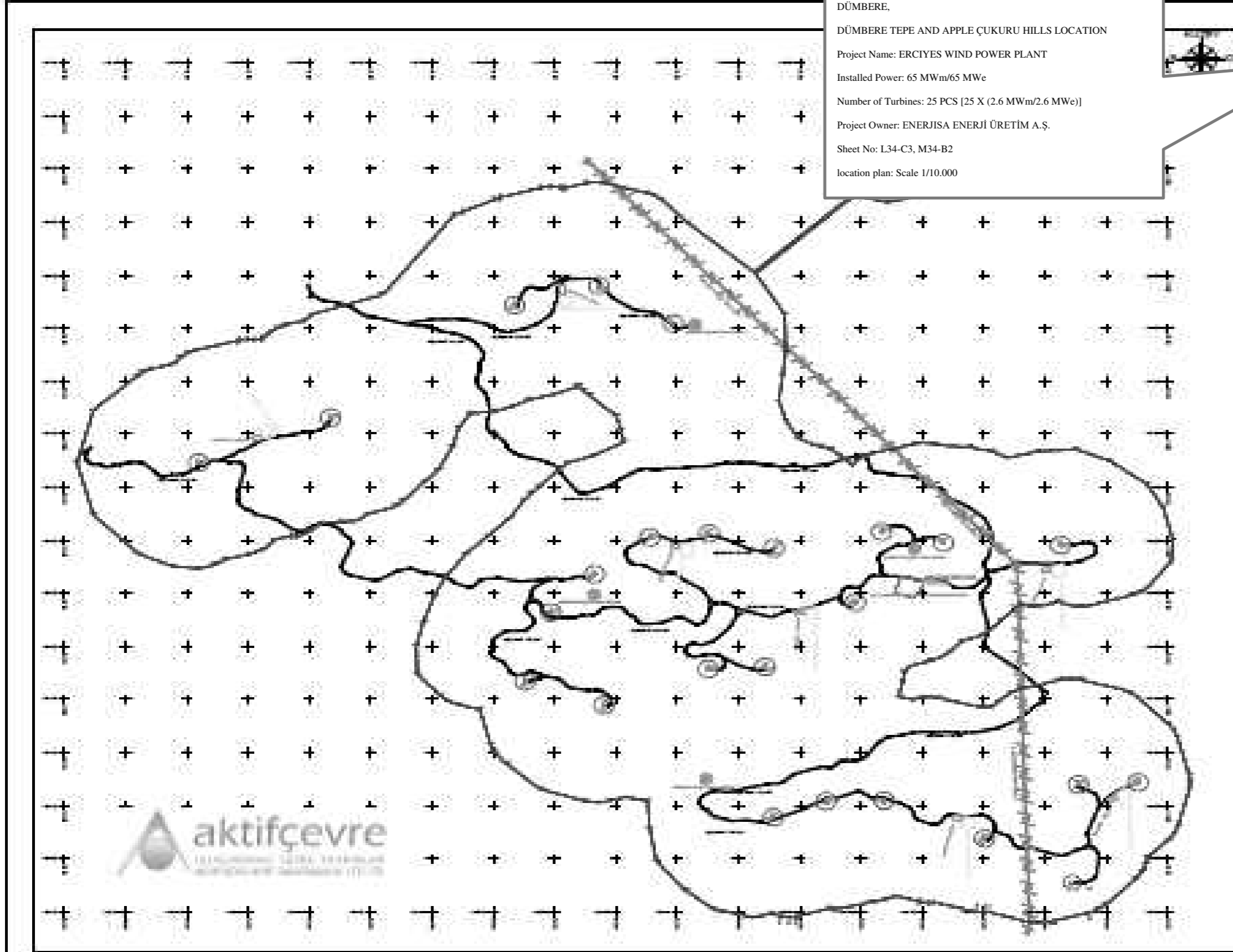


ERCİYES WPP TURBINE COORDINATES		
Turbine No	X (m)	Y (m)
1	1000	1000
2	1000	1100
3	1000	1200
4	1000	1300
5	1000	1400
6	1000	1500
7	1000	1600
8	1000	1700
9	1000	1800
10	1000	1900
11	1000	2000
12	1000	2100
13	1000	2200
14	1000	2300
15	1000	2400
16	1000	2500
17	1000	2600
18	1000	2700
19	1000	2800
20	1000	2900
21	1000	3000
22	1000	3100
23	1000	3200
24	1000	3300
25	1000	3400

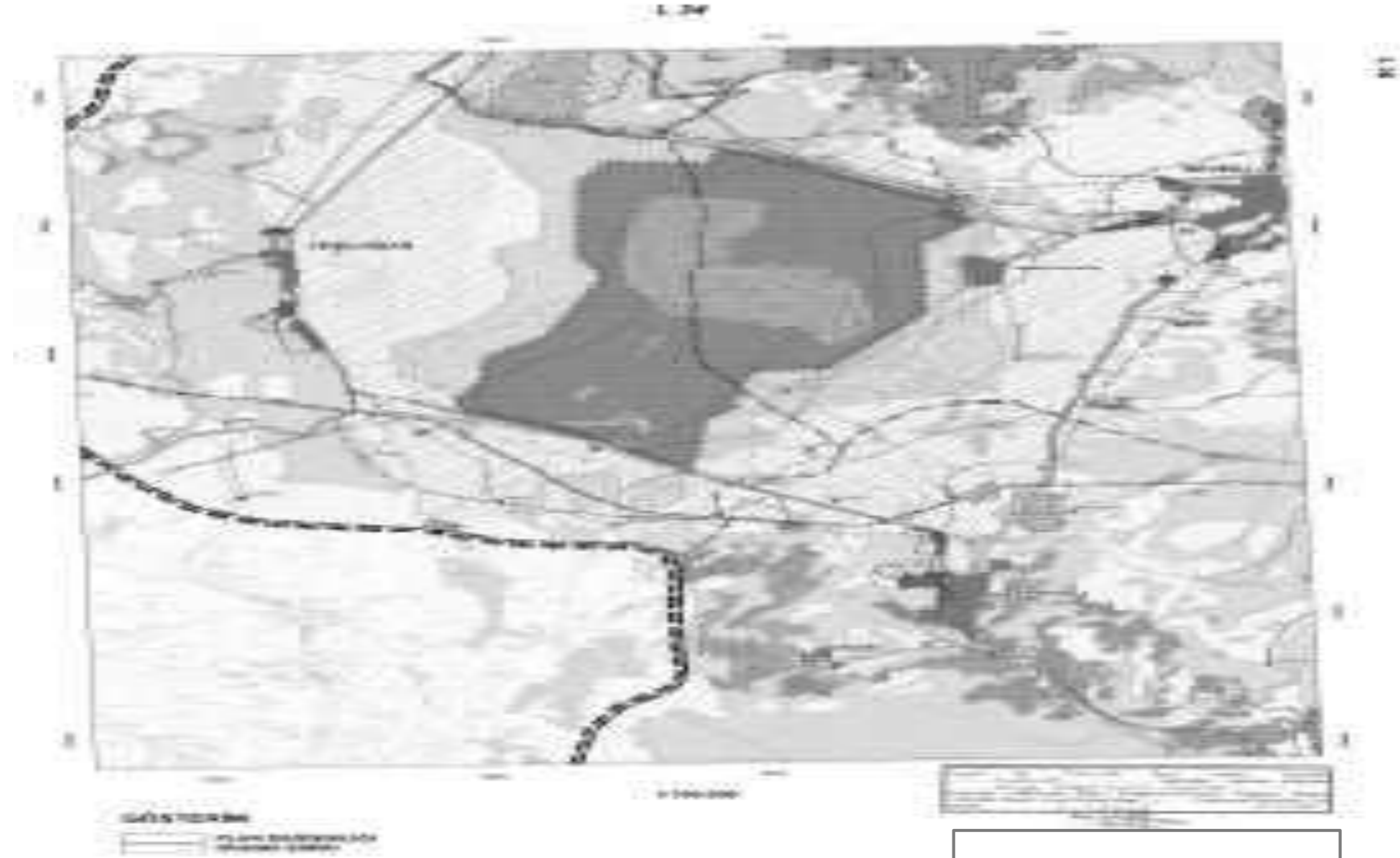
Turbine Usage Areas Unscaled Display
 Turbine Sweeping Area
 Working Platform

ERCİYES WPP TURBINE COORDINATES

Turbine No	X (m)	Y (m)	Area (m²)	Platform (m²)
1	1000	1000	1000	1000
2	1000	1100	1000	1000
3	1000	1200	1000	1000
4	1000	1300	1000	1000
5	1000	1400	1000	1000
6	1000	1500	1000	1000
7	1000	1600	1000	1000
8	1000	1700	1000	1000
9	1000	1800	1000	1000
10	1000	1900	1000	1000
11	1000	2000	1000	1000
12	1000	2100	1000	1000
13	1000	2200	1000	1000
14	1000	2300	1000	1000
15	1000	2400	1000	1000
16	1000	2500	1000	1000
17	1000	2600	1000	1000
18	1000	2700	1000	1000
19	1000	2800	1000	1000
20	1000	2900	1000	1000
21	1000	3000	1000	1000
22	1000	3100	1000	1000
23	1000	3200	1000	1000
24	1000	3300	1000	1000
25	1000	3400	1000	1000



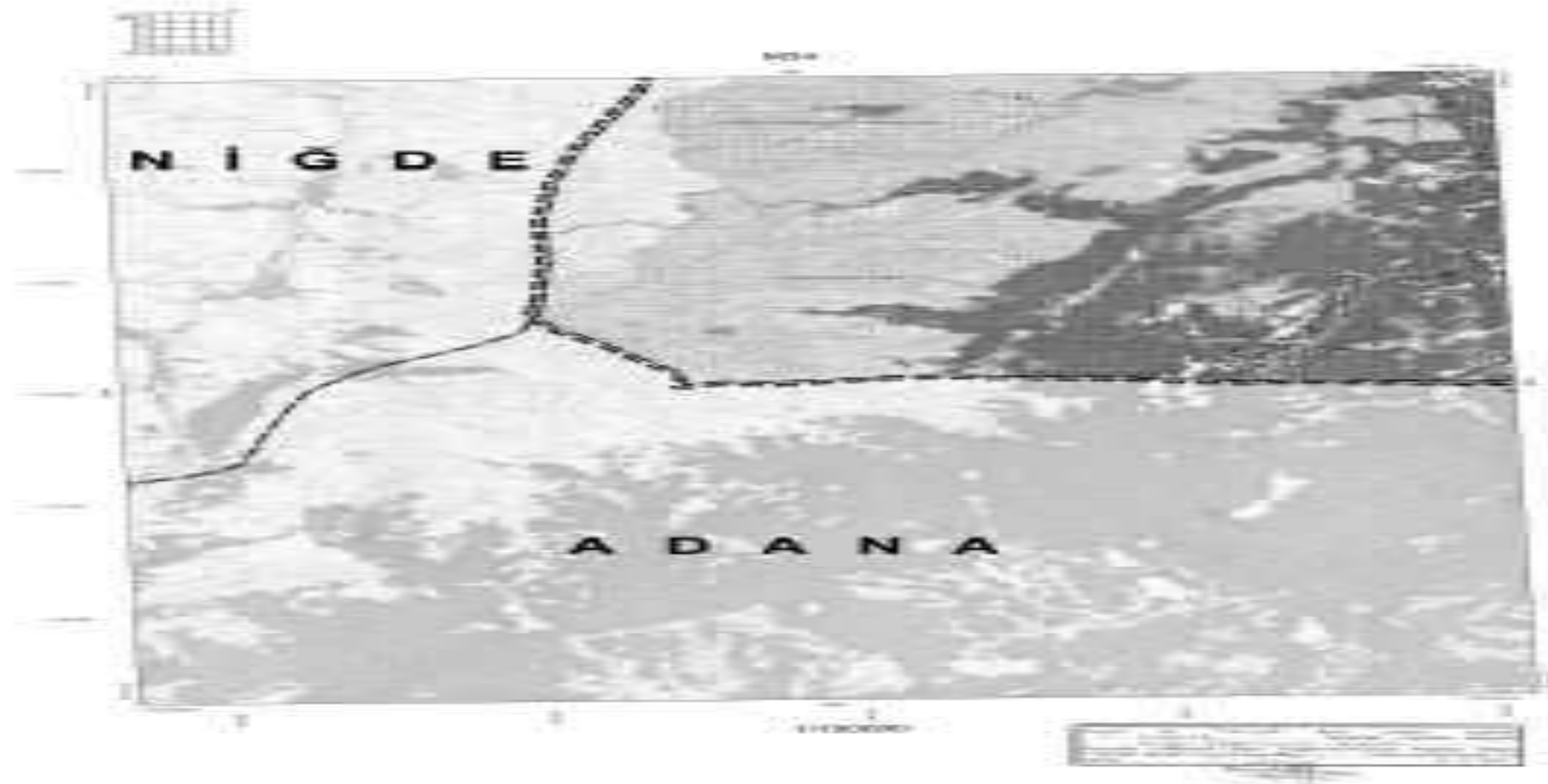
ANNEX -4
Approved 1/100,000 Scale Environmental Plan and Legend



**Display
Plan Change
Approval Limit**

It is as the original of the 1/100,000 Scale Environmental Plan Sheet / Provision for the Yozgat-Sivas-Kayseri Planning Region to be used in the Erciyes Wind Power Plant Project planned to be built by EnerjiSa within the borders of Yahyalı District of Kayseri Province.

L – 34 1/100.000

**M-34 1/10000**

It is as the original of the 1/100,000 Scale Environmental Plan Sheet / Provision for the Yozgat-Sivas-Kayseri Planning Region to be used in the Erciyes Wind Power Plant Project planned to be built by EnerjiSa within the borders of Yahyalı District of Kayseri Province.

Turkish Republic
MINISTRY OF ENVIRONMENT AND URBANIZATION Directorate General of Spatial Planning
YOZGAT - SİVAS - KAYSERİ PLANNING REGION
1/100 000 SCALE LANDSCAPE PLAN
DISPLAY

BOUNDARIES ADMINISTRATIVE BOUNDARIES

	City border
	County Boundary
	Metropolitan Municipality Boundary
	Planning Limits
	Plan Approval Limit
	Special Planning Area Boundary
	Water Resources Conservation Area Boundaries
	Drinking and Potable Water Absolute Protection Area Boundary
	Potable Water Short Range Protection Area Boundary
	Drinking Water Medium Range Protection Area Boundary
	Drinking Water Long Range Conservation Area Boundary
	Wetland
	Wetland Absolute Protection Boundary
	Wetland Ecological Impact Zone Boundary
	Wetland Special Provision Zone Boundary
	Wetland Buffer Zone Boundary
	Areas Granted Planning Authorization by Special Laws
	Culture and Tourism Conservation and Development Zone / Tourism Center
	Wildlife Conservation and Development Area
	National Parks Border
	Nature Park / Nature Reserve
	Absolute Protection Zone
	Controlled Use Zone
	Limited use Zone
	LAND USE
	RESIDENTIAL AREAS AND DEVELOPMENT AREAS
	urban built-up area
	urban development area
	Vineyard-Garden textured urban development area
	rural settlement area
	village center
	central village
	plateau settlement
	Working places
	Public establishment area requiring large area usage
	non-residential Urban workspace
	Organized industrial Zone
	Industrial Area
	Small Industrial Site Areas
	Storage Spaces
	Industry and Warehousing
	urban service area
	Logistics center area
	free zone
	organized farming area
	organized livestock area
	technological greenhouse zone
	Mineral Extraction area

TURİZM ALANLARI

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TOURISM AREAS

tourist resort area
 preferential use
 Daily facility area
 ecotourism field
 Ski Area Area
 Winter Tourism
 Point Daily
 camping
 Golf Tourism
 Thermal Tourism
 Waterfall
 Rafting
 trekking
 Canyon
 Paragliding
 Large and Open Space Uses
 University Kapus area
 Technological Development shadow
 Regional park / large urban green space
 recreation area
 Regional / Urban Sports area
 Congress Center
 Theme Park fairground
 Social equipment area
 agricultural land uses
 Farmland
 Meadow - Pasture
 Tigem Land
 Forest Fields
 Forest Area
 Area to be afforested
 Recreation Area
 Other Land Use Areas
 Military Field
 Protected Areas
 Sites
 Natural Site
 Archaeological Site
 urban site
 1st and 2nd degree archaeological site

DOĞAL KARA

	DOĞA
	KAYAL
	KIYI, K
	SAZLIK

ALTYAPI**ULAŞIM****KARAYOLLAR**

	BİRİNCİ
	BİRİNCİ
	İKİNCİ
	İKİNCİ
	ÜÇÜNCÜ
	KENTİ
	KÖY Y
	KÖY Y
	TURİS

DEMİRYOLLARI

	MEVC
	HIZLI T
	HAFİF
	HIZLI T

HAVA YOLLARI

	MEVC
	ASKEP
	ÖNERİ

ENERJİ - SU

	KAPTA
	SULAMA
	ENERJİ
	DOĞA
	PETROL

SU YÜZEYLERİ

	GÖL -
	NEHİR
	DERE

ATIK VE ARITMA

	KATI A
	GERİ
	ARITMA
	ÇÖP D

Protected areas with natural character
 the area whose natural and ecological
 structure will be preserved
 rocky - stony area
 shore , dune
 reeds - swampy area
 infrastructure
 transport
 highways
 First Order Path
 First Degree Road (Under Dam)
 Secondary Path
 Second Degree Road (Below dam)
 Third degree Path
 Urban Road
 Village Road
 Village Road (under dam)
 Tourist Tour Route
 railways
 Existing Railways
 High Speed Train Project Route
 Light Rail System
 High Speed Train Station
 Airlines
 Existing airport / Airport
 Military Airport / Airport
 Recommendation Airport / airport
 Energy - Irrigation
 catchment area
 Irrigation Area
 Energy Transmission Line
 Natural Gas Pipfill
 Oil Pipeline
 Water Surfaces
 LAKE - Pond - Dam
 River
 Stream
 Waste and Treatment Facilities
 Solid Waste Disposal and Recovery Facility
 Treatment Plant Area
 Garbage Landfill

**REPUBLIC OF TURKEY MINISTRY OF ENVIRONMENT AND URBANIZATION
GENERAL DIRECTORATE OF SPATIAL PLANNING**

YOZGAT-SİVAS-KAYSERİ PLANNING REGION 1/100.000 SCALE LANDSCAPE

8.19.5. ENERGY GENERATION AREAS AND ENERGY TRANSMISSION FACILITIES

8.19.5.1. ON THE CONDITION THAT THE APPROPRIATE OPINION OF THE MINISTRY OF ENVIRONMENT AND URBANIZATION IS TAKEN , IN RENEWABLE ENERGY (WIND, SOLAR, GEOTHERMAL HYDROELECTRIC) PRODUCTION AREAS, PERMITTED FROM RELEVANT INSTITUTIONS AND ORGANIZATIONS AND LICENSE TO BE GRANTED BY THE ENERGY MARKET REGULATION AND SUPERVISION BOARD, MASTER AND IMPLEMENTATION ZONING PLANS PREPARED IN ACCORDANCE WITH THE OPINIONS OF RELATED INSTITUTIONS AND ORGANIZATIONS ARE APPROVED BY THE RELEVANT ADMINISTRATION AND THE PLANS ARE SENT TO THE MINISTRY FOR INFORMATION, WITHOUT THE NEED FOR CHANGE OF 1/100,000 SCALE LANDSCAPE PLAN,

8.19.5.2. ON ENERGY TRANSMISSION FACILITIES, ON THE CONDITION OF TAKING THE APPROPRIATE OPINION OF THE MINISTRY OF ENVIRONMENT AND URBANIZATION, WITHOUT THE NEED FOR CHANGE OF 1/100,000 SCALE LANDSCAPE PLAN, MASTER AND IMPLEMENTATION ZONING PLANS PREPARED IN ACCORDANCE WITH THE OPINIONS OF RELATED INSTITUTIONS AND ORGANIZATIONS ARE APPROVED BY THE RELEVANT ADMINISTRATION AND THE PLANS ARE SENT TO THE MINISTRY FOR INFORMATION.

8.19.5.3. THE EXISTING APPROVED PLANS ARE APPLICABLE IN THE AREAS SHOWN AS THERMAL POWER PLANT IN THIS PLAN.FOR ADDITIONAL CONSTRUCTION AND RENOVATIONS IN THESE AREAS, IT IS MANDATORY TO MAKE CONSTRUCTION DECISIONS, IN A WAY THAT IS NOT AGAINST THE PRINCIPLES AND DECISIONS OF THIS PLAN.

8.19.6. NATURAL GAS PIPELINES, ENERGY TRANSMISSION LINES, ENERGY TRANSMISSION FACILITIES AND DRINKING WATER PIPELINES

8.19.6.1. WHEN MAKING SUB-SCALE PLANS, OPINIONS OF RELEVANT INSTITUTIONS/INSTITUTIONS ARE REQUIRED FOR NATURAL GAS PIPELINES, ENERGY TRANSMISSION LINES, ENERGY TRANSMISSION FACILITIES AND DRINKING WATER PIPELINES. IN LINE WITH THIS, IT IS ESSENTIAL TO MAKE PLAN DECISIONS REGARDING THE SUCH LINES, FACILITIES AND INTERACTION AREAS.

8.19.6.2. UNLESS AN OPINION TO THE OTHER OPINION IS TAKEN FROM THE RELATED INSTITUTION/INSTITUTION,THE PLANNING CONDITIONS AND

SECURITY CRITERIA ARE AS FOLLOWS: IT CANNOT BE CONSTRUCTED ON THE ROUTE LINE WHICH HAS BEEN INSTALLED OWNERSHIP OR EASEMENT RIGHT ON BEHALF OF BOTAŞ.



Büyük Mükellefler Vergi Dairesi

Vergi Kimlik Numarası: 4560004685

BİTİREK (SERİ-SIRAM) : M-2017-11-15-17.01.21.650279

DEKONT

No:

Tarih : 15/11/2017

Valör : 15/11/2017

Bank Receipt
Environment and Urbanization Payment
L34 and M34 Plots Environmental Plan Approval

B.ŞUBE
0860A.ŞUBE
0452

05000026 ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI DCM.SER.İŞ

IBAN: TR87 0001 2009 4520 0005 0000 26

ANKARA KURUMSAL ŞB.

ÇEVRE VE ŞEHİRCİLİK ÖDEMESİ L34 ve M34 PAFTALARI ÇEVRE DÜZENİ PLANI TASDIKI	800.00
--------------------------------------------------------------------------------	--------

L.f.2

TOPLAM 800.00

Y / (TL)SEKİZYÜZ 800

Toplam

AÇIKLAMA:9298424059108 REF.NOLU,507/3350065612 FAT.NI.LU,10/11/2017 SON ÖD.T
RHLİ, ENERJİSA ENERJİ ÜRETİM A.Ş. A AİT ÇEVRE VE ŞEHİRCİLİK ÖDEMESİ

TAHSİL EDİMİZ : 800.00

BİSYBHA /ONTA /17.01

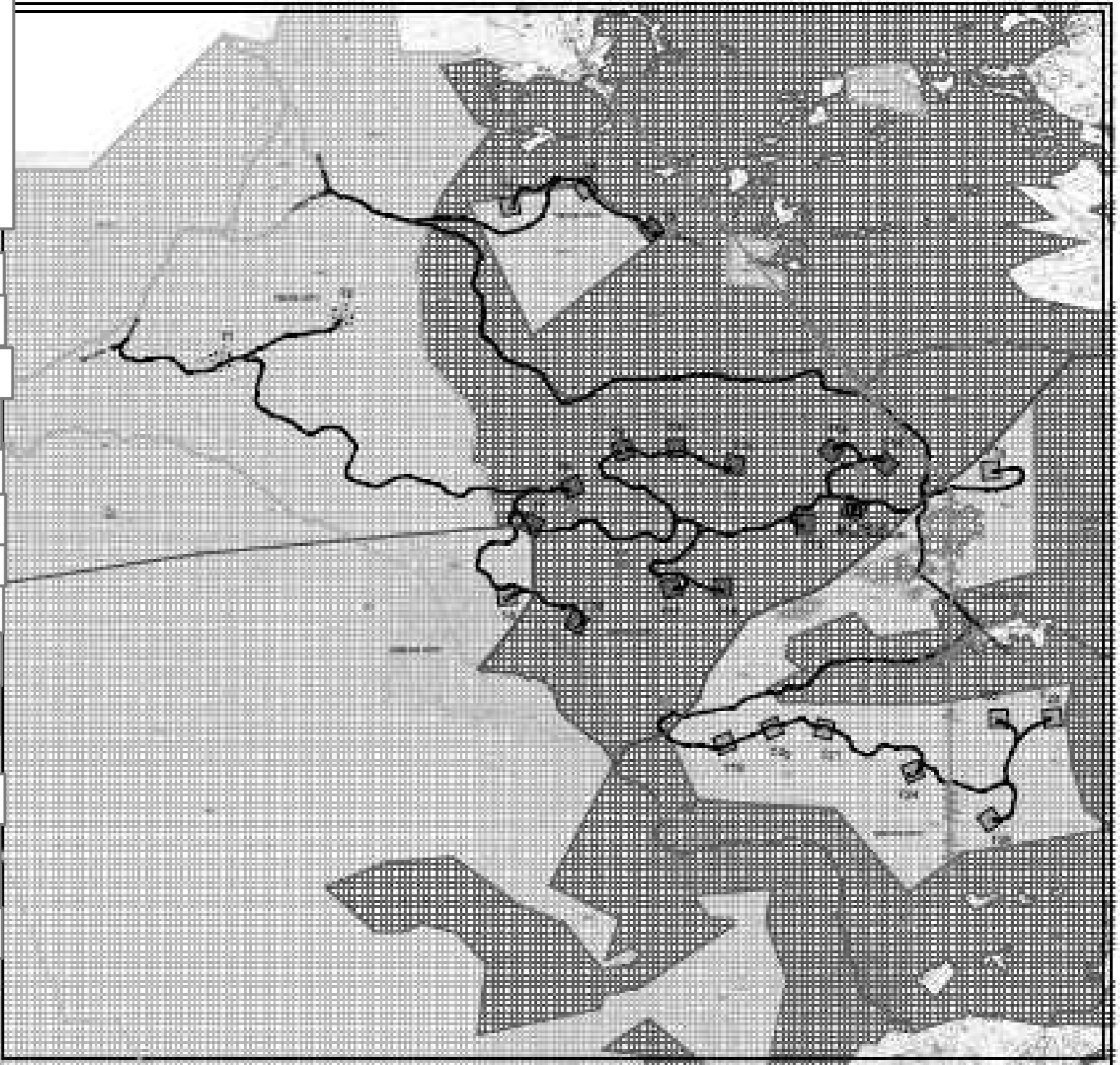
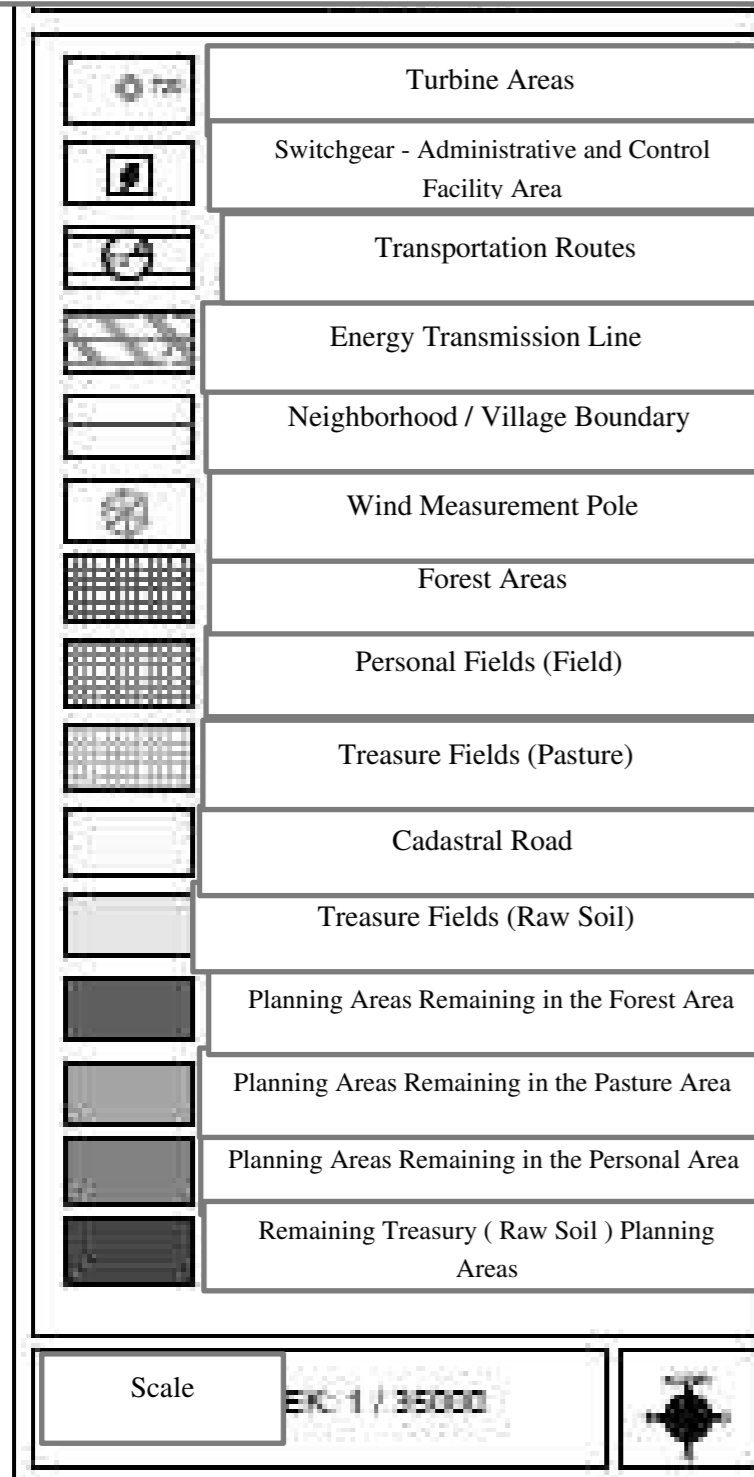
AD,SOYAD ve İMZA

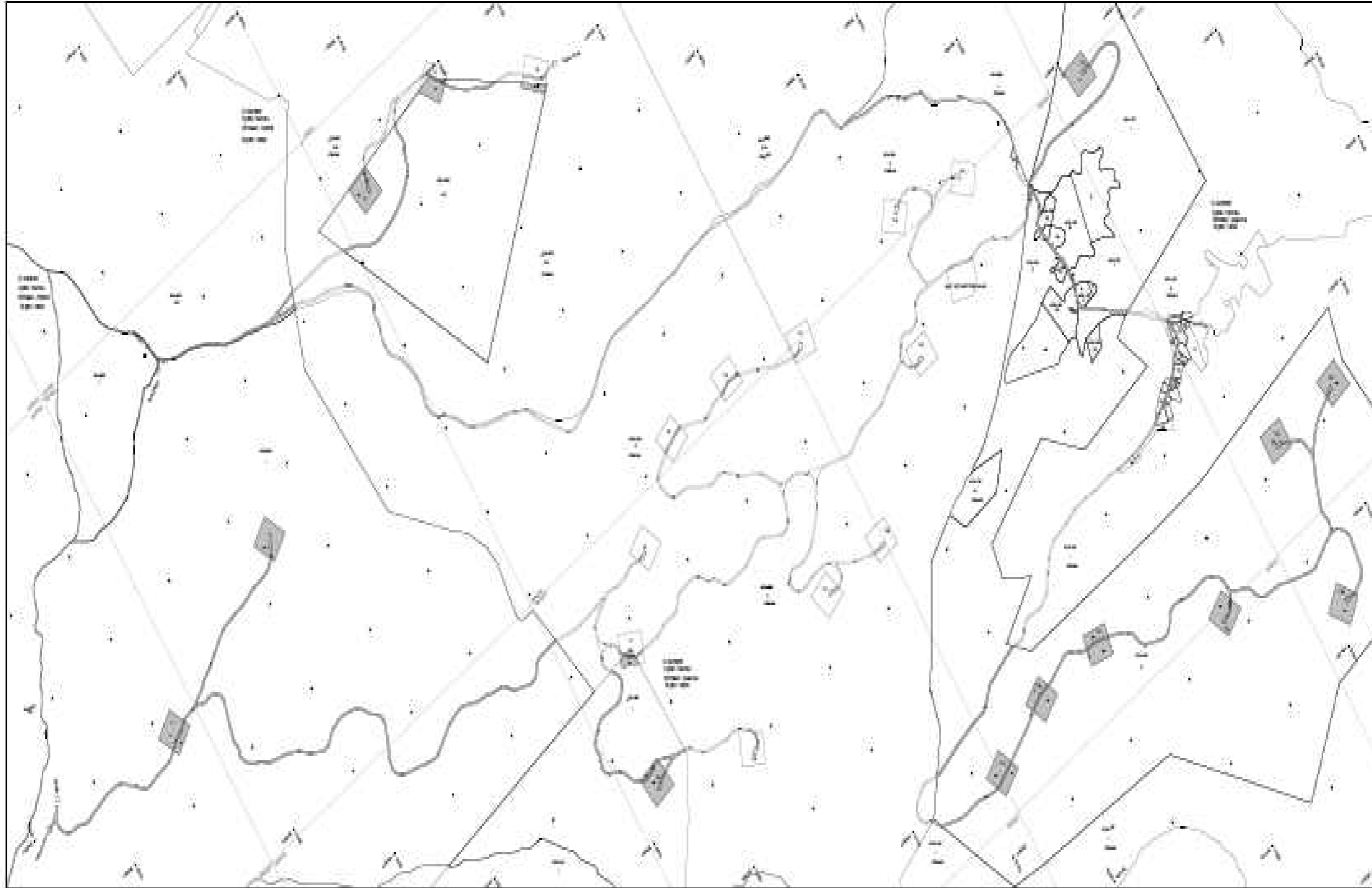
TÜRKİYE HALK BANKASI A.Ş.
LEVENT / İSTANBUL ŞB.
TÜRKİYE HALK BANKASI A.Ş.
Levent Şubesi

Ticaret Sicil No: 862070, Barbaros Mahallesi Şebboy Sokak No:4 34746 Ataşehir/İstanbul, Tel: (216) 503 70 70,
Faks: (212) 340 93 99 www.halkbank.com.tr

ANNEX-5
Property Status Map and Expropriation Plan

KAYSERİ PROVINCE YAHYALI DISTRICT ERCIYES
WIND POWER PLANT PROPERTY ANALYSIS
DISPLAY





YAHALI DISTRICT
IN KAYSERİ
PROVINCE
ÇAMLICA AND
YENICE VILLAGES
ERCIYES WPP
EXpropriation PLAN -
SCALE: 5000

RESPONSIBLE
MAPS ENGINEER
NAME
SIGNATURE
TITLE
DATE
ARCHIVE NO

PRODUCER /
LICENSE LEGAL
ENTITY
NAME ENERJİSA
ENERJİ ÜRETİM.
A.Ş

SIGNATURE
TITLE
DATE
CADASTRE
DIRECTORATE
Prepared in accordance
with the Regulation on
Maps and Plans
Subject to Registration
Turkish Republic ENERGY
MARKET REGULATORY
AUTHORITY
NAME
SIGNATURE
TITLE
DATE

Turkish Republic
MINISTRY OF
FINANCE
NAME
SIGNATURE
TITLE
DATE

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz

Zemin No : 46281946

İl / İlçe : KAYSERİ/YAHYALI

Kurum Adı : Yahyalı TM

Mahalle / Köy Adı : ÇAMLICA Mah.

Mevkii : DÖNBERİ

Cilt / Sayfa No : 12 / 1109

Kayıt Durum : Aktif

Plot/Parcel
Surface Area
Its Qualification

: 157/90

: 9.700,00 m2

: Uncultivated Soil

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130911191	Public Property		TAM	9.700,00	Tesis Kadastro - 19/11/1992 - 0-	- -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988

Ramazan GÜNEŞ

Kaydına Uygundur.

09.11.2017

Arif AYDIN

Tapu Müdürü

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Kamu Orta Mali
Zemin No : 46361448
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii :
Cilt / Sayfa No : 10000 / 213
Kayıt Durum : Aktif

1k40988

Plot/Parcel : 157/1
Surface Area : 1.061.356,12 m2
Its Qualification : Meadow

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131051839	Public Shared Property		TAM	1.061.356,12	- - -	- - -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
Ramazan GÜNEŞ
Kaydına Uygundur.
09.11.2017
Arif AYDIN
Tapu Müdürü

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Kamu Orta Mali
Zemin No : 46361447
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii :
Cilt / Sayfa No : 10000 / 212
Kayıt Durum : Aktif

Plot/Parcel Surface Area Its Qualification : 156/2 : 5.267.178,00 m2 : Meadow

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131051838	Public Shared Property		TAM	5.267.178,00	- - -	- -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
Ramazan GENEŞ
Kaydına Uygundur.
09.11.2017
Arif AYDIN
Tapu Müdürü

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46283269
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1026
Kayıt Durum : Aktif

tk40988

Plot/Parcel
Surface Area
Its Qualification : 157/6
: 4.200,00 m2
: T Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130913585	İbrahim Sapmaz – Mehmet Oğlu		TAM	4.200,00	Tesis Kadastro - 19/11/1992 - 0-	- -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
Ramazan GÜNEŞ
Kavim Uygundur.
09.11.2017
Arif AYDIN
Tapu Müdürü

LAND REGISTRATION OF THE REAL ESTATE

ŞBİ var)

Zemin Tipi : Ana Taşınmaz
Zemin No : 46286561
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1010
Kayıt Durum : Aktif

Plot/Parcel
Surface Area
Its Qualification

: 156/81
: 9.582,00 m2
Field

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130918842	SELİME ŞİRİN : SALİH Kızı	1	TAM		İntikal - 23/03/2007 - 441-	- -
130918843	HATİCE DİNÇER : SALİH Kızı	1	"		İntikal - 23/03/2007 - 441-	- -
130918844	NİZAMETTİN KOYUNCU : SALİH Oğlu	1	"		İntikal - 23/03/2007 - 441-	- -
130918845	SELVER DURU : SALİH Kızı	1	"		İntikal - 23/03/2007 - 441-	- -
130918846	AYŞE KİPER : SALİH Kızı	1	"	9.582,00	İntikal - 23/03/2007 - 441-	- -
130918847	OSMAN KOYUNCU : SALİH Oğlu	1	"		İntikal - 23/03/2007 - 441-	- -

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46282777
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1002
Kayıt Durum : Aktif

Plot/Parcel : 156/73
Surface Area : 7.507,00 m2
Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130912654	MEHMET BAŞ : HASAN Oğlu		TAM	7.507,00	Tesis Kadastro - 19/11/1992 - 0-	- -

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46282779
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1003
Kayıt Durum : Aktif

1140988

Plot/Parcel : 156/74
Surface Area : 7.307,00 m2
Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130912656	ZULFIKAR SİPAHI : KERİM Oğlu		TAM	7.307,00	Tesis Kadastro - 19/11/1992 - 0-	- -

* Tesis edilen sahler ve hesaplar ealt elektronik ortamda tınılmaktadır

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46282781
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1004
Kayıt Durum : Aktif

Plot/Parcel : 156/75
Surface Area : 3.003,00 m2
Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130912658	ŞABAN GEYİK : OSMAN Oğlu		TAM	3.003,00	Tesis Kadastro - 19/11/1992 - 0-	- -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
Ramazan GÜNEŞ

LAND REGISTRATION OF THE REAL ESTATE

tk40988
Zemin Tipi : Ana Taşınmaz
Zemin No : 46282787
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1007
Kayıt Durum : Aktif

Plot/Parcel : 156/78
Surface Area : 1.043,00 m2
Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
138591371	RAMAZAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591372	SELVER KİPER : DEMİRALİ Kızı		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591373	KAZIM KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591374	ADNAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591375	HAYRIYE İNNECİ : DEMİRALİ Kızı		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591376	KADİRE EKİM : DEMİRALİ Kızı		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591377	ALİ OSMAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591378	AHMET KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -
138591379	SONER KOYUNCU : DEMİRALİ Oğlu		1 / 9	115,89	İntikal - 11/05/2011 - 1095-	- -

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
 Zemin No : 46282791
 İl / İlçe : KAYSERİ/YAHYALI
 Kurum Adı : Yahyalı TM
 Mahalle / Köy Adı : ÇAMLICA Mah.
 Mevkii : DÖNBERİ
 Cilt / Sayfa No : 11 / 1009
 Kayıt Durum : Aktif

Plot/Parcel : 156/80
 Surface Area : 6.681,00 m2
 Its Qualification : Field

TAŞINMAZ ŞERH / BEYAN / İRTİFAK

S/B/İ	Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev
İrtifa	Easement: There is a permanent easement right on the 5205 m2 area in favor of Teiaş General Directorate.	21/08/2009 - 1843	--

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130912678	ALİ RIZA ERDEMİR : OSMAN Oğlu		TAM	6.681,00	Tesis Kadastro - 19/11/1992 - 0-	--

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
 Rapozan GUNES

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
 Zemin No : 46283034
 İl / İlçe : KAYSERİ/YAHYALI
 Kurum Adı : Yahyalı TM
 Mahalle / Köy Adı : ÇAMLICA Mah.
 Mevkii : DÖNBERİ
 Cilt / Sayfa No : 11 / 1011
 Kayıt Durum : Aktif

Plot/Parcel : 156/82
 Surface Area : 3.971,00 m2
 Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirtliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
138591380	RAMAZAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591381	SELVER KİPER : DEMİRALİ Kızı		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591382	KAZIM KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591383	ADNAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591384	HAYRIYE İNNECİ : DEMİRALİ Kızı		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591385	KADİRE EKİM : DEMİRALİ Kızı		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591386	ALİ OSMAN KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591387	AHMET KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -
138591388	SONER KOYUNCU : DEMİRALİ Oğlu		1 / 9	441,22	İntikal - 11/05/2011 - 1095-	- -

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46283041
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1017
Kayıt Durum : Aktif

Plot/Parcel : 156/88
Surface Area : 14.500,00 m2
Its Qualification : Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130913199	NAZIF AYDIN : DÜRMUŞ Oğlu	TAM		14.500,00	Mülkiyet ve Hisse Oranlarının Düzeltilmesi - 30/01/1995 - 69-	- -
S/B/İ	Açıklama	Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.		
Şerh	İçerik		17/02/2016 - 504	-		

With the Lien Letters of the Yahyalı Enforcement Directorate dated 16.02.2016 and numbered 2016 / 78, a lien of 15303.40 TL was made in favor of the creditor Ali Gündoğan.

İpotek

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı
(SN:1850) TÜRKİYE CUMHURİYETİ ZİRAAT BANKASI A.Ş. VergiNo:9980069675 SicilNo:15106	Hayır	24.000.00 ETL	DEĞİŞKEN	1 / 0	FBK	27/03/2009- 614		Yok

İpoteğin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
Yahyalı TM - ÇAMLICA Mah. 156 Ada 88 Parsel	1 / 1	NAZIF AYDIN : DÜRMUŞ Oğlu	24.000.00 ETL	27/03/2009- 614	-

İpotek S/B/İ Bilgisi

S/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev.

Düşünceler

D İPOTEĞE İLAVE AYNI KÖY 1016,1021,1023 SAYFALARLA MÜŞTEREK TİR.

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı

(SN:1850) TÜRKİYE CUMHURİYETİ Evet 500,000.00 TL % 12 2 / 0 F.B.K. 19/06/2014- 1360 NAZİF AYDIN : DURMUŞ Oğlu Var
ZİRAAT BANKASI A.Ş.
VergiNo:9980069675 SicilNo:15106

İpoteğin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev
Yahyalı TM - ÇAMLICA Mah. 156 Ada 87 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 88 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 92 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--

İpotek Ş/B/İ Bilgisi

Ş/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev
			-	--

Düşünceler

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raportayarı: tk40988
BANKA MÜHÜRÜ

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46283033
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1016
Kayıt Durum : Aktif

Plot/Parcel
Surface Area
Its Qualification

: 156/87
: 7.450,00 m2
: T
Field

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130913191	NAZIF AYDIN			7.450,00	Mülkiyet ve Hisse Oranlarının Düzeltilmesi - 30/01/1995 - 69-	--
	S/B/İ	Acıklama	Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
	Serh	İcrat		17/02/2016 - 504	--	
	Haciz	İşlemler				

With the Lien Letters of the Yahyalı Enforcement Directorate dated 16.02.2016 and numbered 2016 / 78, a lien of 15303.40 TL was made in favor of the creditor Ali Gündoğan.

İpotek

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı
(SN:1850) TÜRKİYE CUMHURİYETİ ZİRAAT BANKASI A.Ş. VergiNo:9980069675 SicilNo:15106	Hayır	24.000,00 ETL	DEĞİŞKEN	1 / 0	FBK	27/03/2009- 614		Yok
İpoteğin Konulduğu Hisse Bilgisi								
Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev			
Yahyalı TM - ÇAMLICA Mah. 156 Ada 87 Parsel	1 / 1	NAZIF AYDIN : DÜRMUŞ Oğlu	24.000,00 ETL	27/03/2009- 614	--			
İpotek S/B/İ Bilgisi								
S/B/İ	Acıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev				
				--				
Düşünceler								
F İPOTEĞE İLAVE AYNI KÖY 1017,1021,1023 SAYFALARLA MÜŞTEREKTİR.								
Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı

(SN:1850) TÜRKİYE CUMHURİYETİ Evet 500,000.00 TL % 12 2 / 0 F.B.K. 19/06/2014- 1360 NAZIF AYDIN : DURMUŞ Oğlu Var
ZİRAAT BANKASI A.Ş. Değişken
VergiNo:9980069675 SicilNo:15106

İpoteğin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev
Yahyalı TM - ÇAMLICA Mah. 156 Ada 87 Parsel	1 / 1	NAZIF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 88 Parsel	1 / 1	NAZIF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 92 Parsel	1 / 1	NAZIF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--

İpotek Ş/B/İ Bilgisi

Ş/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev
			-	--

Düşünceler

* Tesis edilen serhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46282789
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1008
Kayıt Durum : Aktif

Plot/Parcel
Surface Area
Its Qualification : 156/79
: 2.792,00 m2
: T Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130912671	AYŞE KİPER : SALİH Kızı	1	TAM		İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	
130912672	OSMAN KOYUNCU : SALİH Oğlu	1	"		İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	
130912673	SELİME ŞİRİN : SALİH Kızı	1	"		İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	
130912674	HATİCE DİNÇER : SALİH Kızı	1	"		İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	
130912675	NİZAMETTİN KOYUNCU : SALİH Oğlu	1	"	2.792,00	İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	
130912676	SELVER DURU : SALİH Kızı	1	"		İntikal - 23/03/2007 - 441-	- -
S/B/İ	Açıklama		Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.	
Beyan	2942/7.MADDESİNE GÖRE ŞERH.TEİAŞ LEHİNE.		TÜRKİYE ELEKTRİK İLETİM A.Ş. (TEİAŞ)	01/07/2003 - 351	--	

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46282785
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1006
Kayıt Durum : Aktif

Plot/Parcel
Surface Area
Its Qualification

: 156/77
: 4.431,00 m2
: Field

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.	
305975925	HÜSEYİN DİNÇER : NASUF Oğlu	40880181	TAM	492,33	İntikal - 23/06/2015 - 2016-	--	
305975926	DURAN DİNÇER : NASUF Oğlu	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975927	MÜMIN DİNÇER : NASUF Oğlu	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975928	HAVVA DİNÇER : NASUF Kızı	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975930	MELEK KILIBOZ : NASUF Kızı	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975931	RAMAZAN DİNÇER : NASUF Oğlu	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975932	GULAY DİNÇER : NASUF Kızı	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
305975934	ŞEREF DİNÇER : NASUF Oğlu	40880181	"	492,33	İntikal - 23/06/2015 - 2016-	--	
					Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.
					Haciz glenmiştir.	06/02/2017 - 383	--
305975935	ME			492,33	İntikal - 23/06/2015 - 2016-	--	
					Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.
					rih	24/04/2017 - 1262	--

With the lien letter dated 02.02.2017 and numbered 2016/16946 of İzmir 1st Enforcement Directorate, a lien was processed in favor of the creditor: Soner Çınar, amounting to TL 48194.84.

With the letter dated 01.02.2017 and numbered 2017/3646 of the 14th Executive Directorate of Istanbul Anatolia, TL 166440, (Creditor: DenizBank)

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi	: Kamu Orta Mali	Plot/Parcel	: 155/1
Zemin No	: 46361446	Surface Area	: 1466884,00
İl / İlçe	: KAYSERİ/YAHYALI	Its Qualification	: Meadow
Kurum Adı	: Yahyalı		
Mahalle / Köy Adı	: ÇAMLICA M		
Mevkii	:		
Cilt / Sayfa No	: 10000 / 211		
Kayıt Durum	: Aktif		

Proprietorship Data

Sistem No	Malik	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131051837	(SN:778) Public Shared Property	VKN:	TAM	1466884,00 m ²	- 01/01/0001 - 0 --

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46283266
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1023
Kayıt Durum : Aktif

Plot/Parcel : 157/3
Surface Area : 11.450,00 m2
Its Qualification : T

Field

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130913582	EMİNE AYDIN : MEHMET Kızı		TAM	11.450,00	Tesis Kadastro - 19/11/1992 - 0-	- -

İpotek

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı
(SN:1850) TÜRKİYE CUMHURİYETİ ZİRAAT BANKASI A.Ş. VergiNo:9980069675 SicilNo:15106	Hayır	24,000.00 ETL	DEĞİŞKEN	1 / 1	FBK	27/03/2009- 614		Yok

İpoteğin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev
Yahyalı TM - ÇAMLICA Mah. 157 Ada 3 Parsel	1 / 1	EMİNE AYDIN : MEHMET Kızı	24,000.00 ETL	27/03/2009- 614	--

İpotek S/B/İ Bilgisi

S/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev
			-	--

Düşünceler

A İPOTEĞE İLAVE AYNI KÖY 1016,1017,1021 SAYFALARLA MÜŞTEREK TİR.

LAND REGISTRATION OF THE REAL ESTATE

ZEMİN KAYDI (Aktif Malikler için Detaylı - ŞBİ var)

Zemin Tipi : Ana Taşınmaz
Zemin No : 46281948
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : MERYEMANA
Cilt / Sayfa No : 12 / 1110
Kayıt Durum : Aktif

Plot/Parcel Surface Area Its Qualification : 157/91 : 77.500,00 m2 : Field

Easement: There is a permanent easement right on the 12292 m2 area in favor of Teiaş General Directorate.

Proprietorship Data

Sistem No	Malik	Elbirliği No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130911193	KADRIYE AYDIN : HASAN Kızı	TAM		77.500,00	Tesis Kadastrosu - 19/11/1992 - 0-	--

İpotek

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı
(SN:1850) TÜRKİYE CUMHURİYETİ ZİRAAT BANKASI A.Ş. VergiNo:9980069675 SicilNo:15106	Hayır	200.000.00 TL	%10 DEĞİŞKEN	1 / 0	F.B.K.	28/09/2011- 2175	KADRIYE AYDIN : HASAN Kızı	Yok

İpotegin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
Yahyalı TM - ÇAMLICA Mah. 157 Ada 91 Parsel	1 / 1	KADRIYE AYDIN : HASAN Kızı	200.000.00 TL	28/09/2011- 2175	--

İpotek S/B/İ Bilgisi

S/B/İ	Acıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev.

Düşünceler

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 86188639
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : YENİCE Mah.
Mevkii :
Cilt / Sayfa No : 1 / 1000
Kayıt Durum : Aktif

tk40988

Plot/Parcel
Surface Area
Its Qualification

: 684/1
: 8.641.686,00 m2
: 3

Meadow

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
277712228	Public Shared Property		TAM	8.641.686,00	İfraz İşlemi (TSM) - 03/09/2014 - 2068- - -	

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tk40988
Durum: GİNER

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Kamu Orta Malı
Zemin No : 46362126
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : YENİCE Mah.
Mevkii :
Cilt / Sayfa No : 10000 / 143
Kayıt Durum : Aktif

1k40988

Plot/Parcel : 683/1
Surface Area : 553.000,00 m2
Its Qualification : Meadow

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131052680	Public Shared Property		TAM	553.000,00	--	--

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: 1k40988

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Kamu Orta Malı
Zemin No : 46362116
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : YENİCE Mah.
Mevkii :
Cilt / Sayfa No : 10000 / 133
Kayıt Durum : Aktif

1k40988

Plot/Parcel
Surface Area
Its Qualification

: 665/510
: 2.991.638,00 m2
: M

Meadow

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131052670	KA		TAM	2.991.638,00	---	--

Public Shared Property

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Kamu Orta Malı
Zemin No : 46362115
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : YENİCE Mah.
Mevkii :
Cilt / Sayfa No : 10000 / 132
Kayıt Durum : Aktif

1140988

Plot/Parcel : 665/418
Surface Area : 1.285.212,00 m²
Its Qualification : Meadow

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
131052669	KAMU ORTA MALI		TAM	1.285.212,00	- - -	- - -

Public Shared Property

LAND REGISTRATION OF THE REAL ESTATE

Zemin Tipi : Ana Taşınmaz
Zemin No : 46283233
İl / İlçe : KAYSERİ/YAHYALI
Kurum Adı : Yahyalı TM
Mahalle / Köy Adı : ÇAMLICA Mah.
Mevkii : DÖNBERİ
Cilt / Sayfa No : 11 / 1021
Kayıt Durum : Aktif

Plot/Parcel : 156/92
Surface Area : 40.500,00 m2
Its Qualification : T
Field

Proprietorship Data

Sistem No	Malik	Elbirligi No	Hisse Pay/Payda	Metrekare	Edinme Sebebi - Tarih - Yev.	Terkin Sebebi - Tarih - Yev.
130913528	NAZIF AYDIN : DURMUŞ Oğlu		TAM	40.500,00	Mülkiyet ve Hisse Oranlarının Düzeltilmesi - 30/01/1995 - 69-	--
S/B/İ	Açıklama	Malik / Lehdar	Tarih - Yevmiye	Terkin Sebebi - Tarih - Yev.		
Şerh	İcrai Haciz : YAHYALI İCRA MÜDÜRLÜĞÜ nin 16/02/2016 tarih 2016/78 ESAS sayılı Haciz Yazısı sayılı yazıları ile 15303.40 TL bedel ile Alacaklı : Ali GÜNDOĞAN lehine haciz işlenmiştir.		17/02/2016 - 504	--		

İpotek

Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı
(SN:1850) TÜRKİYE CUMHURİYETİ ZİRAAT BANKASI A.Ş. VergiNo:9980069675 SicilNo:15106	Hayır	24.000.00 ETL	DEĞİŞKEN	1 / 0	FBK	27/03/2009- 614		Yok
İpoteğin Konulduğu Hisse Bilgisi								
Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev.			
Yahyalı TM - ÇAMLICA Mah. 156 Ada 92 Parsel	1 / 1	NAZIF AYDIN : DURMUŞ Oğlu	24.000.00 ETL	27/03/2009- 614	--			
İpotek S/B/İ Bilgisi								
S/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev.				
				--				
Düşünceler								
E İPOTEĞE İLAVE AYNI KÖY 1016,1017,1023 SAYFALARLA MÜŞTEREKTİR.								
Alacaklı	Müşterekmi?	Borç	Faiz	Derece/Sıra	Süre	Tesis Tarih - Yev.	Borçlu	SDF Hakkı

(SN:1850) TÜRKİYE CUMHURİYETİ Evet 500,000.00 TL % 12 2 / 0 F.B.K. 19/06/2014- 1360 NAZİF AYDIN : DURMUŞ Oğlu Var
ZİRAAT BANKASI A.Ş.
VergiNo:9980069675 SicilNo:15106

İpoteğin Konulduğu Hisse Bilgisi

Taşınmaz	Hisse Pay/Payda	Borçlu Malik	Malik Borç	Tescil Tarih - Yev.	Terkin Sebebi - Tarih - Yev
Yahyalı TM - ÇAMLICA Mah. 156 Ada 87 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 88 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--
Yahyalı TM - ÇAMLICA Mah. 156 Ada 92 Parsel	1 / 1	NAZİF AYDIN : DURMUŞ Oğlu	500,000.00 TL	19/06/2014- 1360	--

İpotek Ş/B/İ Bilgisi

Ş/B/İ	Açıklama	Malik	Tarih/Yevmiye	Terkin Sebebi - Tarih - Yev
			-	--

Düşünceler

* Tesis edilen şerhler ve beyanlar salt elektronik ortamda tutulmaktadır.

Raporlayan: tr40988

**THE AREA COVERED BY THE TURBINES ON THE MEADOW
PLOTS**

PR OV IN CE	TOWN	VILLAGE	Plot Number	OWNERS			TYPE OF THE PROPERTY	FIELD OF THE PROPERTY (m2)	TURBINE FIELD	TURBINE NO
				NAME AND SURNAME	FATHER NAME	SHARE RATIO				
Kayseri	Yahyalı	Çamlıca	155/1	Public Shared Property		WHOLE	MEAD DOW	1466884.00	B:1283.72 B1:4546.59	T7
									B2:22734.50 B3:1495.75	T6
Kayseri	Yahyalı	Çamlıca	156/2	Public Shared Property		WHOLE	MEAD OW	5267178.00	B:9465.75 B3:14498.13	T20
									B1:88881.90 B2:15110.25	T19
									B4:24203.28	T22
									B5:23920.71	T24
									B6:24616.82	T23
									B7:24456.93	T25
B8:14301.80 B9:9681.52	T21									
Kayseri	Yahyalı	Çamlıca	157/1	Public Shared Property		WHOLE	MEAD OW	1061356.12	B:24592.48	T15
Kayseri	Yahyalı	Yenice	665/418	Public Shared Property		WHOLE	MEAD OW	1285212.00	B:649.75 B1:12975.25	T4
									B2:24046.64	T3
									B3:5553.72	T5
Kayseri	Yahyalı	Yenice	684/1	Public Shared Property		WHOLE	MEAD OW	8641686	B::17512.08 B1:6475.96	T1
									B2:24391.60	T2

ENERJİSA ENERJİ ÜRETİM. A.Ş

ERCIYES WPP

LIST OF IMMOVABLE PROPERTY IN THE OWNERSHIP

PROVINCE	TOWN	VILLAGE	Plot Number	OWNERS			TYPE OF THE PROPERTY	FIELD OF THE PROPERTY (m2)	TURBINE FIELD	TURBINE NO
				NAME AND SURNAME	FATHER NAME	SHARE RATIO				
Kayseri	Yahyalı	Çamlıca	155/1	Public Shared Property		WHOLE	FIELD	1466884.00	45912.30	ROAD AND TURBINE AREA
Kayseri	Yahyalı	Çamlıca	156/2	Public Shared Property		WHOLE	FIELD	5267178.00	236733.00	ROAD AND TURBINE AREA
Kayseri	Yahyalı	Çamlıca	156/73	MEHMET BAŞ	HASAN	WHOLE	FIELD	7507.00	1625.40	ROAD
Kayseri	Yahyalı	Çamlıca	156/74	ZÜLFİKAR SİPAHİ	KERİM	WHOLE	FIELD	7307.00	704.43	ROAD
Kayseri	Yahyalı	Çamlıca	156/75	ŞABAN GEYİK	OSMAN	WHOLE	FIELD	3003.00	388.42	ROAD
Kayseri	Yahyalı	Çamlıca	156/77	DURAN DİNÇER	NASUF	1/9	FIELD	4431.00	921.57	ROAD
				HÜSEYİN DİNÇER	NASUF	1/9				
				MUNİN DİNÇER	NASUF	1/9				
				HAVVA DİNÇER	NASUF	1/9				
				MELEK KILIBOZ	NASUF	1/9				
				ŞEREF DİNÇER	NASUF	1/9				
				MEHMET DİNÇER	NASUF	1/9				
				RAMAZAN DİNÇER	NASUF	1/9				
DGÜLAY DİNÇER	NASUF	1/9								

Kayseri	Yahyalı	Çamlıca	156/78	RAMAZAN KOYUNCU	DEMİR ALİ	1/9	FIELD	1043.00	101.12	ROAD
				SELVER KİPER	DEMİR ALİ	1/9				
				KAZİM KOYUNCU	DEMİR ALİ	1/9				
				ADNAN KOYUNCU	DEMİR ALİ	1/9				
				HAYRİYE İNCECİ	DEMİR ALİ	1/9				
				KADİRE EKİM	DEMİR ALİ	1/9				
				ALİ OSMAN KOYUNCU	DEMİR ALİ	1/9				
				SONER KOYUNCU	DEMİR ALİ	1/9				
				AHMET KOYUNCU	DEMİR ALİ	1/9				
Kayseri	Yahyalı	Çamlıca	156/79	OSMAN KOYUCU	SALİH	0/1	FIELD	2792.00	281.24	ROAD
				NİZAMETTİN KOYUNCU	SALİH	0/1				
				SELİME ŞİRİN	SALİH	0/1				
				HATİCE DİNÇER	SALİH	0/1				
				SELVER DURU	SALİH	0/1				
				AYŞE KİPER	SALİH	WHOLE				
Kayseri	Yahyalı	Çamlıca	156/80	ALİ RIZA ERDEMİR		WHOLE	FIELD	6681.00	475.02	ROAD
Kayseri	Yahyalı	Çamlıca	156/81	OSMAN KOYUCU	SALİH	0/1	FIELD	9582.00	1577.89	ROAD
				NİZAMETTİN KOYUNCU	SALİH	0/1				
				SELİME ŞİRİN	SALİH	0/1				
				HATİCE DİNÇER	SALİH	0/1				
				SELVER DURU	SALİH	0/1				
				AYŞE KİPER	SALİH	WHOLE				

Kayseri	Yahyalı	Çamlıca	156/82	RAMAZAN KOYUNCU	DEMİR ALİ	1/9	FIELD	3971.00	34.18	ROAD
				SELVER KİPER	DEMİR ALİ	1/9				
				KAZİM KOYUNCU	DEMİR ALİ	1/9				
				ADNAN KOYUNCU	DEMİR ALİ	1/9				
				HAYRİYE İNCECİ	DEMİR ALİ	1/9				
				KADİRE EKİM	DEMİR ALİ	1/9				
				ALİ OSMAN KOYUNCU	DEMİR ALİ	1/9				
				SONER KOYUNCU	DEMİR ALİ	1/9				
				AHMET KOYUNCU	DEMİR ALİ	1/9				
Kayseri	Yahyalı	Çamlıca	156/87	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	7450.00	791.99	ROAD
Kayseri	Yahyalı	Çamlıca	156/88	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	14500.00	854.07	ROAD
Kayseri	Yahyalı	Çamlıca	156/92	NAZİF AYDIN	DURMUŞ	WHOLE	FIELD	40500.00	296.04	ROAD
Kayseri	Yahyalı	Çamlıca	157/90	State Treasury		WHOLE	Uncultivated Soil	9700.00	275.73	ROAD
Kayseri	Yahyalı	Çamlıca	157/91	KADRIYE AYDIN	HASAN	WHOLE	FIELD	77500.00	430.61	ROAD
Kayseri	Yahyalı	Çamlıca	157/1	Public Shared Property		WHOLE	MERA	1061356.12	41035.23	ROAD AND TURBINE AREA
Kayseri	Yahyalı	Çamlıca	157/3	EMİNE AYDIN		WHOLE	FIELD	11450.00	1388.22	ROAD
Kayseri	Yahyalı	Çamlıca	157/6	İBRAHİM SAPMAZ	MEHMET	WHOLE	FIELD	4200.00	14.35	ROAD
Kayseri	Yahyalı	Yenice	665/418	Public Shared Property		WHOLE	MEADOW	1285212.00	58327.25	ROAD AND TURBINE AREA
Kayseri	Yahyalı	Yenice	665/510	Public Shared Property		WHOLE	MEADOW	2991638.00	10338.38	ROAD
Kayseri	Yahyalı	Yenice	684/1	Public Shared Property		WHOLE	MEADOW	8641686.00	109395.30	ROAD AND TURBINE AREA

ANNEX-6
EMRA Pre-License

Turkish Republic
ENERGY MARKET REGULATORY AUTHORITY
PRE - LICENCE



T.C. ENERJİ PİYASASI
DÜZENLEME KURUMU
ÖNLİSANS

The production facility within the scope of this Pre-Licence uses a renewable energy source. (For production facilities within the framework of the definition of 'renewable energy resources within the scope of this law' in the Law No. 5436)

(5346 Sayılı Kanunda yer alan, "Bu Kanun kapsamındaki yenilenebilir enerji kaynakları" tanımı çerçevesinde olan üretim tesisleri için)

Lisans No : ÖN/7322-27/03765

Tarih : 05/10/2017

This pre-license is granted to Enerjisa Enerji Üretim Anonim Şirketi for a period of 36 months as of 05/10/2017, for a period of 36 months as of 05/10/2017 in order to start the investment of the Erciyes WPP generation facility planned to be established in Kayseri province. In accordance with the legislation, it has been given with the Decision of the Energy Market Regulatory Board dated 05/10/2017 and numbered 7322-27.

Mustafa YILMAZ
Başkan

SPECIAL PROVISIONS

This pre-license has been given to Enerjisa Enerji Üretim Anonim Şirketi for the production facility, which is given below, under the following conditions.

1-Information on the production facility

Project/Facility Name: Erciyes WPP

City : Kayseri

District : Yahyalı

Position : Yenice

Facility Type : Wind

Number of Units: 25 Units

Unit installed powers: 2.6MWn/2.6MWe

Total installed power of the facility: 65MW

Annual electrical energy Production amount: 227.500.000kWh

Connection point to the system and voltage levels :154Kv-1 2x1272 MCM EİH and Çamlıca 1 HEPP
TM-Yeşilhisar TM ETL input-output connection

2- Notification address: Sabancı Center, Tower 2,4. Levent Besiktas/ISTANBUL

3-Entry into force and duration of the associate degree

This pre-license comes into effect on 05/10/2017 and the rights and obligations of the pre-licensee under this pre-license become valid as of the effective date of the pre-license. This pre-license is valid for 36 months from the effective date.

4- Real and legal persons who have direct or indirect shares of ten percent (five percent in publicly traded companies) or more in a legal entity

Shareholders directly holding shares (%)

Enerjisa Generation Santralleri A.Ş	99.99
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Shareholders indirectly holding shares (%)

Hacı Ömer Sabancı Holding A.Ş.	49.99
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DD Turkey Holdings S.a.r.	49.99
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Dutchdelta Finance S.a.r.l	49.99
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E.ON Finanzanlagen GMBH	49.99
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E.ON Fünfundzwanzihste Verwaltungs GmbH	49.99
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E.ON SE	49.99
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5- The name/names of the layout and the corner coordinates of the power plant area and/or the unit coordinates 1/25.000, the name of the first sheet: L34-c3, M34-b2

Unit Coordinates

Ünite Koordinatları:

	E	N
T1	710597	4206733
T2	711672	4207159
T3	713175	4208218
T4	713860	4208403
T5	714470	4208045
T6	713260	4204671
T7	713470	4205323
T8	713827	4205682
T9	714276	4206030
T10	714758	4206064
T11	715290	4205928
T12	715955	4205415
T13	716169	4206083

	E	N
T14	716671	4205977
T15	717629	4205955
T16	713902	4204447
T17	714754	4204790
T18	715217	4204809
T19	715285	4203389
T20	715714	4203541
T21	716188	4203548
T22	717772	4203699
T23	718260	4203719
T24	717008	4203189
T25	717721	4202773

Corner Coordinates of Production Facility Site

Üretim Tesisi Sahası Köşe Koordinatları:

	E	N
K1	713840.36	4209376.74
K2	713915.50	4209366.38
K3	714256.67	4209274.49
K4	714320.24	4209249.50
K5	714379.72	4209206.75
K6	714592.21	4208988.89
K7	715126.40	4208529.51
K8	715983.81	4209303.11
K9	715942.57	4209340.78
K10	715903.71	4209501.01
K11	715944.33	4209656.23
K12	716044.59	4209756.06
K13	716123.29	4209783.90
K14	716219.44	4209809.56
K15	716369.98	4209765.79
K16	716481.73	4209654.02
K17	716520.66	4209508.35
K18	716486.59	4209347.97
K19	716370.03	4209226.60
K20	716219.39	4209187.73
K21	716056.69	4209228.97
K22	715988.70	4209294.58
K23	715141.02	4208514.90
K24	715379.02	4208131.15
K25	715388.77	4207781.35
K26	715359.59	4207548.14
K27	715330.40	4207315.04
K28	715388.71	4207130.45
K29	715485.88	4206965.19
K30	715621.69	4206898.82
K31	715679.75	4206887.02
K31	715679.75	4206887.02
K32	715753.88	4206856.10
K33	715826.00	4206804.59
K34	715926.91	4206711.41
K35	715959.86	4206745.38
K36	716019.58	4206790.71
K37	716094.75	4206823.13

	E	N
K39	716507.70	4206920.02
K40	716584.93	4206911.73
K41	716619.92	4206901.45
K42	716889.79	4206877.84
K43	717074.46	4206838.88
K44	717190.99	4206780.68
K45	717443.66	4206838.93
K46	717754.50	4206858.30
K47	718026.60	4206751.50
K48	718337.43	4206528.02
K49	718463.75	4206314.28
K50	718541.52	4206013.05
K51	718531.77	4205809.10
K52	718343.84	4205563.76
K53	718275.88	4205508.07
K54	718210.04	4205484.44
K55	717864.02	4205387.59
K56	717793.93	4205375.28
K57	717714.64	4205387.61
K58	717606.53	4205419.49
K59	717499.42	4205390.64
K60	717419.20	4205378.86
K61	717350.89	4205388.59
K62	717295.54	4205396.88
K63	717143.44	4205248.03
K64	717087.45	4205184.79
K65	716996.41	4205109.96
K66	716894.49	4205074.17
K67	716817.70	4205045.69
K68	716723.40	4204951.13
K69	716652.94	4204902.62
K70	716564.33	4204865.51
K71	716401.60	4204818.11
K72	716348.07	4204764.61
K73	716350.13	4204739.90
K74	716339.81	4204667.77
K75	716304.74	4204527.80
K76	716425.04	4204500.67

K38	716431.48	4206910.67
K78	716560.64	4204526.69
K79	716636.49	4204514.70
K80	716981.27	4204428.00
K81	717008.48	4204433.06
K82	717062.54	4204423.72
K83	717122.73	4204485.17
K84	717221.88	4204569.00
K85	717297.83	4204599.33
K86	717632.77	4204691.41
K87	717709.77	4204699.02
K88	717787.87	4204688.21
K89	718122.47	4204597.74
K90	718196.61	4204567.85
K91	718251.22	4204527.76
K92	718504.55	4204274.43
K93	718553.97	4204211.56
K94	718581.80	4204144.56
K95	718675.46	4203795.56
K96	718685.81	4203727.53
K97	718677.55	4203651.34
K98	718587.45	4203314.54
K99	718555.47	4203240.38
K100	718508.61	4203180.71
K101	718335.94	4203007.40
K102	718321.43	4202951.49
K103	718291.97	4202878.62
K104	718245.08	4202816.63
K105	717995.97	4202567.21
K106	717934.25	4202520.26
K107	717859.93	4202490.62
K108	717524.37	4202405.52
K109	717439.66	4202395.93
K110	717369.90	4202403.41
K111	717042.17	4202496.88
K112	717012.28	4202489.65
K113	716936.08	4202501.07
K114	716597.01	4202588.25
K115	716558.92	4202585.26
K116	716483.28	4202595.46
K117	716281.13	4202650.31
K118	716201.88	4202617.35
K119	716080.31	4202588.25
K120	715793.00	4202524.26
K121	715745.27	4202532.99
K122	715485.09	4202460.84
K123	715421.22	4202451.61
K124	715344.02	4202460.91
K125	715266.79	4202481.41
K126	715110.08	4202447.20
K127	714788.75	4202533.04
K128	714567.75	4202700.05
K129	714334.53	4202972.02
K130	714276.25	4203283.00
K131	714256.81	4203545.25
K132	714084.42	4203580.26
K133	713859.13	4203529.73
K134	713748.56	4203544.39

K77	716484.72	4204514.79
K136	713107.25	4203895.36
K137	713006.32	4204012.78
K138	712975.46	4204086.94
K139	712887.87	4204408.26
K140	712713.89	4204451.49
K141	712639.70	4204484.43
K142	712559.35	4204548.31
K143	712381.68	4204740.37
K144	712371.96	4205002.65
K145	712430.27	4205235.82
K146	712517.76	4205478.75
K147	712614.85	4205663.29
K148	712780.01	4205877.03
K149	712964.64	4206051.98
K150	713129.80	4206207.42
K151	713254.54	4206379.38
K152	713304.91	4206443.43
K153	713374.01	4206506.98
K154	713546.68	4206684.18
K155	713611.74	4206733.97
K156	713814.42	4206799.02
K157	714067.40	4206926.36
K158	714038.25	4207052.64
K159	713999.34	4207179.01
K160	713781.95	4207368.00
K161	713738.14	4207409.72
K162	713694.26	4207454.43
K163	713523.16	4207385.66
K164	713290.55	4207326.72
K165	713163.80	4207266.44
K166	713018.11	4207217.89
K167	712814.08	4207198.36
K168	712716.90	4207062.34
K169	712668.35	4206887.50
K170	712551.72	4206664.02
K171	712446.50	4206559.44
K172	712260.86	4206369.50
K173	712212.84	4206326.71
K174	712147.16	4206299.69
K163	713523.16	4207385.66
K164	713290.55	4207326.72
K165	713163.80	4207266.44
K166	713018.11	4207217.89
K167	712814.08	4207198.36
K168	712716.90	4207062.34
K169	712668.35	4206887.50
K170	712551.72	4206664.02
K171	712446.50	4206559.44
K172	712260.86	4206369.50
K173	712212.84	4206326.71
K174	712147.16	4206299.69
K175	711984.23	4206253.93
K176	711891.01	4206187.99
K177	711764.71	4206173.39
K178	711594.74	4206168.54
K179	711507.31	4206085.99
K180	711405.38	4206039.81

ÖN/7322-27/03765

K181	711357.26	4206044.68
K183	711122.80	4205915.90
K184	711004.76	4205870.88
K185	710812.78	4205822.84
K186	710733.45	4205772.82
K187	710599.97	4205733.18
K188	710375.37	4205760.49
K189	710100.74	4205877.02
K190	709737.45	4206238.83
K191	709604.44	4206733.03
K192	709737.40	4207227.19
K193	710098.16	4207553.28
K194	710134.84	4207586.10
K195	710207.51	4207617.62
K196	710395.58	4207669.10
K197	710447.64	4207722.76
K198	710512.14	4207770.50
K199	710580.47	4207796.47
K200	710928.46	4207886.41

K201	710997.85	4207898.42
K202	711059.65	4207890.80
K203	711121.40	4207905.93
K204	711174.51	4207959.06
K205	711233.13	4208003.56
K206	711303.56	4208032.80
K207	711464.78	4208075.40
K208	711531.21	4208136.87
K209	712102.41	4208318.15
K210	712682.59	4209071.41
K211	712758.47	4209103.94
K212	713014.09	4209215.10
K213	713060.00	4209233.85
K214	713395.95	4209327.69
K215	713477.28	4209339.26
K216	713558.70	4209327.72
K217	713583.67	4209320.38
K218	713762.11	4209371.58

6- Obligation to comply with the legislation

The Pre- licensed holder is obliged to comply with the relevant Legislation on the Electricity Market and other legislation provisions required by the activity within the scope of the pre-license.

7- Amendments to The Pre- license

Amendments

Sıra No	Its Scope Kapsamı	Tacilin Date and Number Tarihi ve Sayısı
-	-	-

ANNEX -7
EIA Format Institutional Opinions

TURKISH REPUBLIC ENERGY AND NATURAL RESOURCES MINISTRY

General Directorate of Mining Affairs

TO MINISTRY OF ENVIRONMENT AND URBANIZATION (General Directorate of
Environmental Impact Assessment, Permit and Inspection)

Reference: Your letter dated 06/10/2017 and numbered E.15830,

SUBJECT: MİGEM Summary opinion on the EIA Application file ,in accordance with the EIA Regulation, prepared for "Erciyes WPP (25 Turbines- 65 Mwm/65 Mwe)" project planned to be realized by Enerjisa Enerji Üretim A.Ş. in Kayseri province, Yahyalı district, Çamlıca Neighbourhood and Yenice Mahallesi Sorgun, Karakuyu Hill, Sırçak Mountain, Elmaçukuru and Dömbere Hills, is below.

In the examination of the EIA Project;

Since it has been determined that the Erciyes WPP (25 Turbines- 65 Mwm/65 Mwe) Project project area and exploration, operation, tender licenses and Geothermal Resources and Natural Mineral Waters licenses issued by our General Directorate with initiative, the WPP route, turbine points, and the distances of protection bands planned to be built are included. In the event that the relevant company applies to our General Directorate of Mining, in the annex of a petition stating the sheet number and coordinates determined on the basis of 1/25000 scaled 6-degree slice of the project area to form a closed area. Opinions are given on behalf of our institution, following the evaluation of the conflicting licenses on the route by the Board Affairs Coordinatorship by conducting an on-site inspection. If the project is carried out by our General Directorate, Since it takes a long time to evaluate whether there is a loss of resources and whether it affects existing licenses, the application to be made must be made urgently. In the examination made; It has been determined that it has been applied about the Erciyes WPP (25 Turbines-65 Mwm/65 Mwe) Project to our General Directorate (with document dated 24/10/2017 and numbered 93907) regarding the project area, and the on-site inspection procedures and the Board process are continuing. Preparing maps and sections in accordance with the mapping technique and signing them by the relevant engineer, Turbine points and guard band distances are included and the coordinates are corrected to form a closed area, writing the layout names on the maps and corresponding to the project area, in the EIA report to be prepared, it is necessary to make a commitment to comply with the provisions of the Mining Law No. 3213 and the Mining Regulation Amended by Law No. 6592, with reference to the Mining legislation in force.

kindly submitted for your information

30/10/2017

On behalf of the General Directorate of Mining

Didem ESER Environmental Engineer

Turkish Republic

MINISTRY OF ENVIRONMENT AND URBAN

ENVIRONMENTAL IMPACT ASSESSMENT PERMISSION AND AUDIT GENERAL

TO DIRECTORATE

Name of the Activity: (25 turbines, 65 Mwm/65 Mwe) Erciyes Wind Power Plant project planned to be built by Enerjisa Enerji Üretim A.Ş in Kayseri Province, Yahyalı district Çamlıca neighborhood and Yenice neighborhood, Sorgun, Karakuyu Hill, Sırçak Mountain , Dümbere, Elmaçukuru and Dümbere hills.

Subject : Format

GENERAL DIRECTORATE OF METEOROLOGY

1-a) General climatic conditions of the region

b) Pressure (Average, maximum and minimum pressure)

c) Temperature (Average, maximum and minimum temperature)

ç) Precipitation Distributions (Average total precipitation, daily maximum precipitation, highest precipitation measured in standard times, recurrence graphs.),

d) Average Relative Humidity Distribution

e) Distribution of Numbered Days (Average number of snowy days, Average number of snow-covered days, Average number of foggy days, Average number of hail days, Average number of frosty days, Average number of days with thunderstorms.)

f) Maximum Snow Thickness

g) Evaporation (Average open surface evaporation, Daily maximum open surface evaporation)

ğ) Wind

1) Annual, seasonal, monthly wind direction,

2) Average wind speed according to directions,

3) Average wind speed,

4) Maximum wind speed and direction,

5) Average number of days with strong winds,

6) Average Number of Stormy Days.

h) Extraordinary Event Observations

2- Putting the meteorological data in the report as updated and long years (1960-2016) values. (Develi Meteorology Station Long Years Bulletin.)

3- Giving the distribution of meteorological parameters as tables, graphics and written expressions.

4- In case the emissions from the facility exceed the limit values, making emission distribution modeling and evaluating the results.

5- Using hourly meteorological data of that year by choosing a suitable year in modeling studies.

31.10.2017

Adem ALTINSOY

Meteorology Engineer

TURKISH REPUBLIC

MINISTRY OF ENVIRONMENT AND URBAN GENERAL DIRECTORATE OF SPATIAL
PLANNINGVERY IMMEDIATE AND DAILY
31.10.2017

Issue :65842636-305.02-E.18838

Subject : Erciyes Wind Power Plant (25 Turbines, 65 Mwm/65 Mwe)

Project Meeting Dates

ENVIRONMENTAL IMPACT ASSESSMENT, TO THE GENERAL DIRECTORATE OF
PERMISSION AND AUDIT

Reference : Writing E.15830 dated 06.10.2017.

With the letter registered in the reference, The opinion of our General Directorate regarding the EIA Application File is requested, which has been presented in the Online EIA Management System, about "Erciyes Wind Power Plant (25 Turbines, 65 Mwm/65 Mwe) Project" planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri Province, Yahyalı District, Çamlıca District and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills.

In the examination made in the EIA Application File, which is the subject of the article; It has been understood that the project in question falls within the scope of the "Yozgat-Kayseri-Sivas Planning Region 1/100.000 Environmental Plan (ÇDP)" and the information and documents that should be included in the EIA Report are given below.

- 1- The original size copies of the current 1/100,000 scaled EDP with the stamp "like the original" indicating the scope of work, legend and plan provisions should be attached to the report and in addition, a separate A4/A3 document showing the project area in the approved environmental plan is prepared and added to the report.
- 2- It is required to attach the relevant plan sheet (1/5000 and 1/1000 scale) of the approved zoning plan (1/5000 and 1/1000 scale) belonging to the project area subject to the EIA or the region in which the project area is located, together with the legend sheet and plan provisions, to the report with the official institution stamp "like the original" by the relevant administration and The area of activity should be shown on these plans, the approval dates of the zoning plan and which institution it was approved by should be stated in the report, otherwise, a letter from the relevant administration stating that there is no approved zoning plan should be added to the report.
- 3- In the EIA Report-Part II; Existing land use of the project area (agriculture, forest, urban settled area, etc., if it is built, for what purpose) should be explained and the use/uses of the project area should be stated.

kindly submitted for your information

Turkish Republic

KAYSERİ GOVERNORSHIP

Directorate of Food, Agriculture and Livestock

Issue :87878883-611.02-E.2583328 17.10.2017

Subject : Institutional View Before IDK

TO MINISTRY OF ENVIRONMENT AND URBAN

(General Directorate of Environmental Impact Assessment, Permission and Inspection)

Reference: Your letter dated 06.10.2017 and numbered 48331039-15830.

With a letter of interest, our Institution's opinion has been asked about the Erciyes Wind Power Plant project (25 Turbines, 65 Mwm) planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri Province, Yahyalı District, Çamlıca District and Yenice District, Sorgun, Karakuyu, Tepe, Sırçak Mountain, Dümbere, Elmaçukuru, Dümbere Hills.

- 1- Obtaining a non-agricultural use permit for agricultural land, vineyards and orchards, if any, in accordance with the Soil Conservation and Land Use Law No. 5403,
- 2- Obtaining permission according to the Agricultural Reform Law on Land Arrangement in Irrigation Areas No. 3083,
- 3- Obtaining permission for the change of allocation purpose in accordance with Article 14 of the Pasture Law No. 4342 for pasture areas,
- 4- Complying with the provisions of the Fisheries Law No. 1380 and the Pollution Regulation,
- 5- During the implementation of the project, it is necessary to take measures that will not harm the environment, pasture and agricultural lands.
- 6- The above-mentioned issues must be committed in the EIA report.

KAYSERİ GOVERNORSHIP
11 Disaster And Emergency Directorate

12.10.2017

Issue : : 69615258-611.02-E.151353
Subject : Opinion

TO MINISTRY OF ENVIRONMENT AND URBAN
(General Directorate of Environmental Impact Assessment, Permission and Inspection)

Relevant: Your letter dated 06.10.2017 and numbered 48331039-220.01-E.15830.

With the letter of interest, in Kayseri Province, We were asked for our Institution's opinion on the Erciyes Wind Power Plant (25 adet Turbine, 65 Mwm) project planned to be built by Enerjisa Enerji Üretim A.Ş. in Yahyalı District, Çamlıca District and Yenice District, Sorgun, Karakuyu, Tepe, Sırçak Mountain, Dümbere, Elmaçukuru, Dümbere Hills.

The opinion of the institution on the subject has been sent in the appendix of our article.

kindly submitted for your information

Appendix: Institutional Opinion (1 page)

Annex – 1

In the analysis made in our archive, we do not have a Disaster Exposed Region and a project planned for the disaster in the region where the said project is located. 11.10.2017

Sukru ASLANTAŞ

Geophysics Engineer Provincial Directorate of Disaster and Emergency

TURKISH REPUBLIC

KAYSERİ METROPOLITAN MUNICIPALITY
Environmental Protection and Control Department

06.11.2017

Issue : : 12815416-045-E.2017-172/16217

Subject : Opinion

TO MINISTRY OF ENVIRONMENT AND URBAN
(General Directorate of Environmental Impact Assessment, Permission and Inspection)

Relevant: Your letter dated 06.10.2017 and numbered 48331039-220.01-E.15830.

The file prepared within the framework of the EIA General Format included in the Annex-III of the Regulation has been examined , About the Erciyes Wind Power Plant planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri Province, Yahyalı District, Çamlıca District and Yenice District, Sorgun, Karakuyu Hill, Sırcak Mountain, Dümbere, Elmaçukuru and Dümbere Hills (25 Turbines, 65 Mwm/65 Mwe).

In the project file;

Domestic solid waste wastes to be generated as a result of the activities in the field will be disposed of in accordance with the provisions specified in the "Waste Management Regulation", which came into force after being published in the Official Gazette dated 02.04.2015 and numbered 29314,

On the other hand, it has been determined that medical wastes will be disposed of by the "Medical Waste Control Regulation", which entered into force by being published in the Official Gazette dated 25.01.2017 and numbered 29959, and there is no negative situation by our institution in accordance with the provisions of the above-mentioned regulation.

kindly submitted for your information

TURKISH REPUBLIC
KAYSERİ GOVERNORSHIP
Provincial Directorate of Environment and Urbanization

01.11.2017

Issue : : 27332451-220.01-E.10462

Subject : Erciyes Wind Power Plant (25 Turbines, Capacity=65 Mwm/65 Mwe) Project

TO MINISTRY OF ENVIRONMENT AND URBAN
(General Directorate of Environmental Impact Assessment, Permission and Inspection)

Relevant: Your letter dated 06.10.2017 and numbered 48331039-220.01-E.15830.

With the project of Erciyes Wind Power Plant (25 Turbines, 65 Mwm/65 Mwe) planned to be built by Enerjisa in Kayseri Province, Yahyalı District, Çamlıca District and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills. According to Article 9 of the EIA Regulation, the Public Participation Meeting regarding the EIA Application File prepared and submitted to our Ministry was held on 27.10.2017 at 14.00 in Çamlıca Mahallesi Village Room.

As a result of the examination of the EIA Application File and the Public Participation Meeting;

- Minimizing the loss of pasture areas in the project area and ensuring that the pasture passageways are not closed during the works,
- Detailed examination of the possible effects of the project on beekeeping activities and specifying the measures to be taken,
- It is considered that it would be appropriate to plan social responsibility projects (such as beekeeping training, etc.) in line with the demand of the local people, and to examine their issues in detail in the file.

kindly submitted for your information

TURKISH REPUBLIC

MINISTRY OF FORESTRY AND WATER MANAGEMENT
DSI Survey, Planning and Allocations Department

06.11.2017

Issue : : 22549675-611.02-769649

Subject : Erciyes Wind Power Plant (25 Turbines, 65 MWm/65 MWe) Project EIA
Application FileTO MINISTRY OF ENVIRONMENT AND URBAN
(General Directorate of Environmental Impact Assessment, Permission and Inspection)

Relevant: Your letter dated 06.10.2017 and numbered 15830

In your article of interest; Our organization's opinion is requested by examining the EIA Application File (ÇBD) prepared for the project, about Erciyes Wind Power Plant (25 Turbines, 65 MWm / 65 MWe) planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri province, Yahyalı district, Çamlıca district and Yenice district, Sorgun, Karakuyu hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere hills,

It has been determined that the area where the activity is planned is not within the scope of our current and envisioned projects.

- The existing beds of the streams passing through the Wind Power Plant site should be preserved. For creeks with possible base flow, it should be committed to keep a distance of at least 25 meters to the right and left over the natural creek bed slope, and for dry creeks, at least 10 meters to the right and left over the natural creek bed slopes.
- During the works, the access of all kinds of materials and the sediment to be formed by erosion to the stream beds should be prevented by the measures to be taken within the field and any intervention that prevents the free flow of the streams should be avoided.
- In case the roads planned during the installation of the turbines intersect with the stream bed, the opinion of our DSI 12th Regional Directorate should be obtained on the determination of the bridge spans, the culverts should be of appropriate hydraulic section and the minimum culvert dimensions should not be less than 2.00 x 2.00 meters.
- Necessary precautions should be taken to prevent the pollutant elements (solid, liquid wastes) that will occur in the activities in the field due to the project infiltrating into the ground and not polluting the groundwater. The cesspool pits where the waste waters that will arise from the use in the field will be collected should be impermeable.
- Considering that the switchgear elements to be used in the switchyard may pollute the air and the surface, maximum precautions must be taken in accordance with the relevant regulations in order to prevent possible gas leaks and transformer isolation oils from polluting the groundwater against possible leakages.

- It has been stated that the expected amount of waste water to be generated during the construction phase of the project is 6 m³ /day, and during the operation phase 1.5 m³ /day, the waste water to be generated will be collected in the impermeable septic tank to be built, it will be pulled with a vacuum truck and given to the waste water network of the Kayseri Metropolitan Municipality. The document to be obtained from the relevant institution must be attached to the EIA Report.
- All kinds of solid and liquid wastes that will arise during the construction and operation phases should be prevented from reaching or discharging to stream beds and surrounding lands, and these wastes should be disposed of in accordance with the legislation.
- In the EIA Application File, no information is given about where the water to be used during the construction and operation phases of the activity will be met. In the event that water supply from underground and surface water sources is planned, it should be committed in the EIA Report that the necessary permits will be obtained from our Administration.
- Necessary marking/warning signs should be placed in sufficient numbers and in an understandable manner in the region where the turbines cross the stream beds, warning signs should be protected and all kinds of security measures should be taken.
- A separate opinion should be sought from our DSI 12th Regional Directorate regarding all kinds of facilities, transportation routes and similar infrastructure planned to be built in this area within the scope of the said activity.
- During the construction activities, the settlement areas, surrounding lands and stream beds should not be damaged, it should be committed to take all kinds of precautions for floods and water pollution problems caused by improper practices, but it should be accepted that our Institution will not be responsible for any possible damage and loss and related legal problems.
- Compliance with the relevant provisions of the Groundwater Law, Water Pollution and Control Regulation, and Waste Management Regulation must be ensured.
- In addition, it is necessary to comply with the relevant provisions of the Prime Ministry Circular No. 2006/27 on Stream Beds and Floods and other relevant legislation published in the Official Gazette dated 09/09/2006 and numbered 26284 regarding the applications to be made in the areas where the stream beds are located.

kindly submitted for your information

Ministry of Forestry and Water Management

GENERAL DIRECTORATE OF NATURE CONSERVATION AND NATIONAL PARKS

Nature Conservation Department

Subject of Activity: Erciyes Wind Power Plant (65 MWm/65 MWe)

Location of Activity: Kayseri province, Yahyalı district

Subject of Opinion: Determining Scope and Special Format (06.11.2017)

Within the scope of the project, a comprehensive ornithological evaluation study should be prepared by the person or persons with at least doctoral level ornithology expertise. In the study to be prepared, it is necessary to provide comprehensive information on the determination of the target species for the region, their Turkish-Latin names and IUCN categories, the purpose for which the species use the area, their migration mobility, reproduction status, and risk assessment etc.

In addition, since the project area is close to Kayseri Yahyalı Aladağlar Wildlife Development Area, VII. Opinion from our Regional (Adana) Directorate is required.

On the other hand, it is considered appropriate to carry out studies on the following issues in the EIA Report to be prepared for the project:

1. Determining the fauna and flora species by carrying out a comprehensive field study on the project area and its impact area, giving a tabular form of the species under protection by international agreements (Bern Convention, etc.)
2. Including the possible effects on the flora and fauna during the construction and operation phase of the activity and the measures to eliminate these effects in the report,
3. Planning the turbine arrays in a way that does not create a barrier effect for birds and bats and does not affect the feeding and breeding activities of other wildlife elements,
4. Planning the distance between the turbines (approximately 300-400 meters) so as not to hinder bird mobility and passage,
5. If there are areas with protection status near the activity area, showing the distances on the map,
6. Giving information about other WPP projects in the region that are under construction or operation,
7. Include the CVs of the experts who will carry out the field and monitoring studies requested above and the periods they worked in the report,

8. Giving information about the effects of wind power plants on pollination, bee and insect species that provide pollination,
9. Including pictures representing the project area and its immediate surroundings in the report and mentioning the activities being carried out in the project area (agriculture, orchard, etc.),
10. Making comments in scientific studies to be carried out for birds and bats, taking into account the WPP activities in the immediate vicinity of the project site.

ANNEX -8

Forest Inspection Evaluation Form and Opinion of the General Directorate of Forestry Fighting against Forest Fires

TURKISH REPUBLIC
MINISTRY OF FOREST AND WATER WORKS
General Directorate Of Forestry

02.1.2018

Issue : : 66995690-611.02-E.2199

Subject : Erciyes Wind Power Plant (25 Turbines, 65 MWm/65 Mwe) Project (611.02.2017-257)

AKTİF ÇEVRE ULUSLARARASI ÇEVRE YATIRIMLARI MÜHENDİSLİK VE
DANIŞMANLIK LTD. ŞTİ.

Relevant: a) Your letter dated 27.11.2017 and numbered 2017/559.

b) Our letter dated 30.11.2017 and numbered 66995690-611.02-E.2562379.

The EIA Investigation and Evaluation Form has been requested with your registered letter, about "Erciyes Wind Power Plant (25 Turbines, 65 MWm/65 Mwe) Project" planned to be built by Enerjisa Enerji Üretim A.Ş. within the borders of Kayseri Province, Yahyalı district, Çamlıca and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills.

The EIA Investigation and Evaluation Form and its annexes prepared for the project in question are attached.

Annex: EIA Review and Evaluation Form and its annexes (1 Set)

kindly submitted for your information

TURKISH REPUBLIC

GENERAL DIRECTORATE OF FOREST

28.12.2017

Issue : : 47652147-255.03-E.2804930

Subject : Erciyes Wind Power Plant (611.02.2017-257)

TO THE GENERAL DIRECTORATE OF FOREST

(Department of permission and easement)

Relevant: Your letter dated 16/10/2017 and numbered 2162317.

The EIA Review and Evaluation Form, related to the "Erciyes Wind Power Plant Project" planned to be realized by Enerjisa Enerji Üretim A.Ş. within the boundaries of Yahyalı District of Kayseri Province in the field of duty of our Regional Directorate, Kayseri Forestry Management Directorate, has been prepared and sent in the appendix of our article.

It has been determined that the project area in question does not hit the forest areas. Our Regional Directorate has no objections to the "Erciyes Wind Power Plant Project" planned to be realized by Enerjisa Enerji Üretim A.Ş.

Annex: 1 - Evaluation Form (2 pages)

2- EIA Evaluation Form (8 pages)

kindly submitted for your information

EIA REVIEW EVALUATION FORM

9-Amount of Building Construction Area to be Established on the Area to be Subject to the Permit. (Whether Infrastructure Works such as Road, Energy, Water Supply are planned for the Project Subject to the EIA Report or not) : planned.

10-Purpose of the Request: 25 turbine areas within the scope of Erciyes Wind Power Plant Project

11-Whether any other application has been made to the Request Field: Not made.

12-Whether the requested area is within the forests with its own ownership and the areas allocated to our administration or the Input of the Impact Distance: Not to remain

13- Whether the Demand Area remains in the Fire-Scarred Forest Area, the Areas Reserved for Regeneration or Afforestation, and the Dam Basins in Article 18 of the Forest Law No. 6831: Not to remain

14- Whether the demand area is within the working area of the ongoing research project, research and training center area and whether it is within the effect range: Be out

15- Demand Field; whether within the Conservation Forests, Gene Conservation Areas, Research Forest Reserved for Scientific Studies, Research Station, Research Project Experiment Areas, Urban Forests, Endemic and Rare Ecosystem Areas to be Protected, Seed Stand, National Park, Game Wildlife, Game Production Area, Tourism Area. Doesn't Stay Private. Whether it is within the Environmental Protection Zone, Military Forbidden Zone and Protected Area and whether it is within the Influence Range or not, : Be out

16-Demand field does not hit the 13th, 14th and 15th of this form. In the event that it hits an area that is specified in the Articles or that has a feature other than these;

a-The Coordinates of the Area in question and the Map with the Project Location Marked,

b- Whether the planned activity is contrary to the grounds for restriction of the Special Area, (For example, whether it is contrary to the reasons for leaving the conservation forest) It doesn't hit.

17- Whether there is a problem in terms of Forestry Studies and Forest-Public Relations , : there is not

18-Degree of Sensitivity and Necessary Measures in Terms of Forest Fires : The opinion letter of the Presidency of Fight Against Forest Fires dated 20.10.2017 and numbered 2207100 is attached.

19-How Much Is The Forest Property And How It Will Be Evaluated: If it is cut, it shall be cut by our chief in accordance with the legislation.

20- The Population and Number of Houses in the Area where the Facility will be Established and the Forest Villages in its Near Surroundings, and the Distance of the Facility to the Nearest Villages: There are no forest villages in close proximity. It is 3 km away from Camlica Village (Population: 396).

21-In the Case of Establishment of the Facility, Its Effect on Employment Status in the Region: It will contribute.

22- Whether there is any restriction in the area of the project in the Management Plan depending on the function of the forest: None.

23-Whether there is an activity for which EIA Positive/Negative Certificate is given in the Activity Area and in its 1 Km Neighborhood (if any, Type, Company and Field of Activity): None

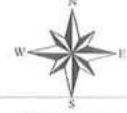
24- Whether the Ministry of Forestry and Water Affairs shall be evaluated within the scope of the Circular dated 03.03.2017 and numbered 2014-1: An evaluation has been made regarding the issues concerning our institution and there is no harm in taking it into consideration within the scope of the circular numbered 2014-1.

CONCLUSION: As a result of the examination and evaluation made within the scope of the EIA Regulation and the Forest Law No. 6831, It has been determined that 709,330.57 m² of the Erciyes Wind Power Plant (25 Turbines, 65 MWm/65 Mwe) Project, planned to be built by Enerjisa Enerji Üretim A.Ş. , falls on the forest areas. In line with the relevant legislation and regulations, Provided that the necessary permissions are obtained from our institution, this examination and evaluation report has been prepared and signed by us, stating that there is no inconvenience for our institution in the realization of the said activity.

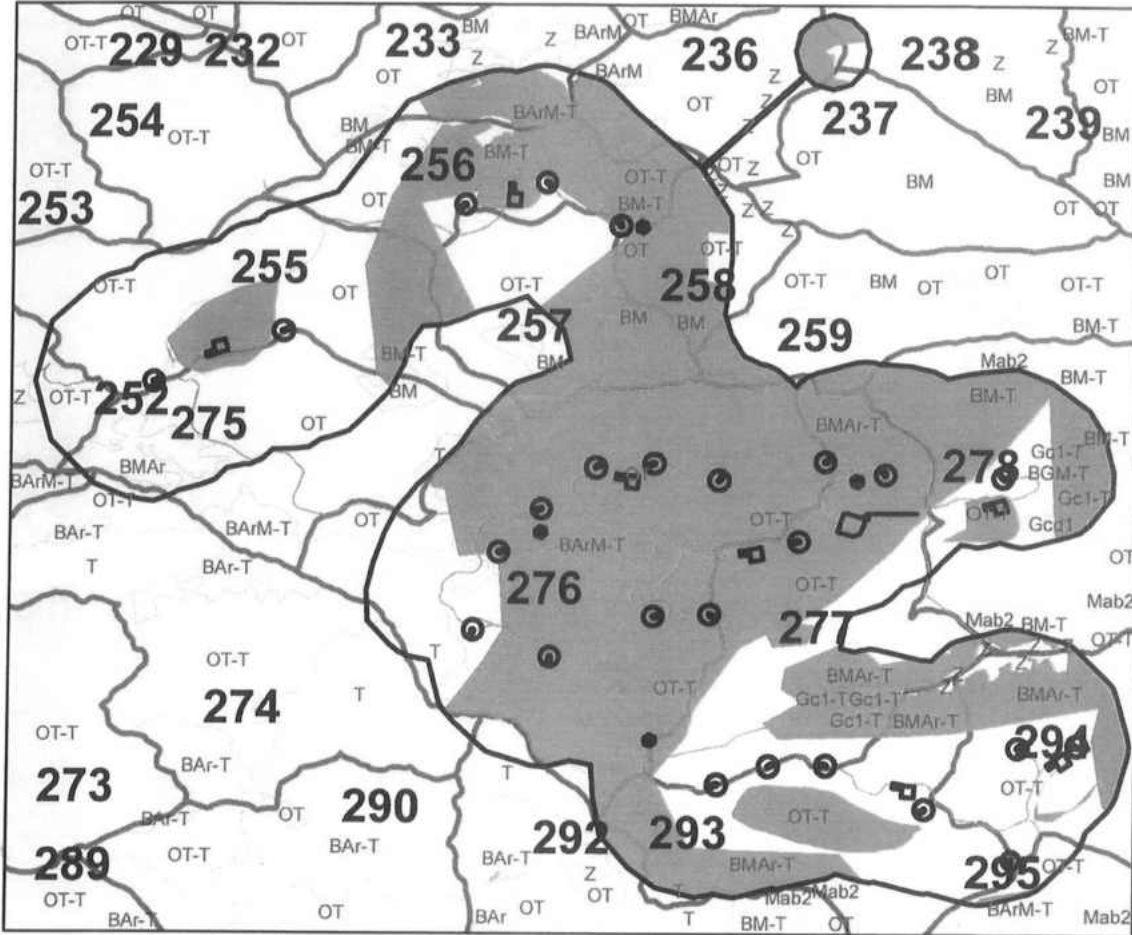
In line with the relevant legislation and regulations, I hereby submit my opinion that in the realization of the Erciyes Wind Power Plant (25 Turbines, 65 MWm/65 Mwe) Project planned to be built by Enerjisa Enerji Üretim A.Ş. , provided that the necessary permits are obtained from our institution, the activity shall not have a negative impact on forests and forestry works for our institution.

As a result of the evaluation made within the scope of the EIA Regulation and the Forest Law No. 6831, Provided that the necessary permissions are obtained from our institution, the said activity shall not have negative effects on forests and forestry activities.

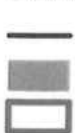
STAND MAP, BELONGING TO YAHYALI FOREST BUSINESS CHIEF,
SHOWING THE SUBJECT LOCATION



1/50000



ÖZEL

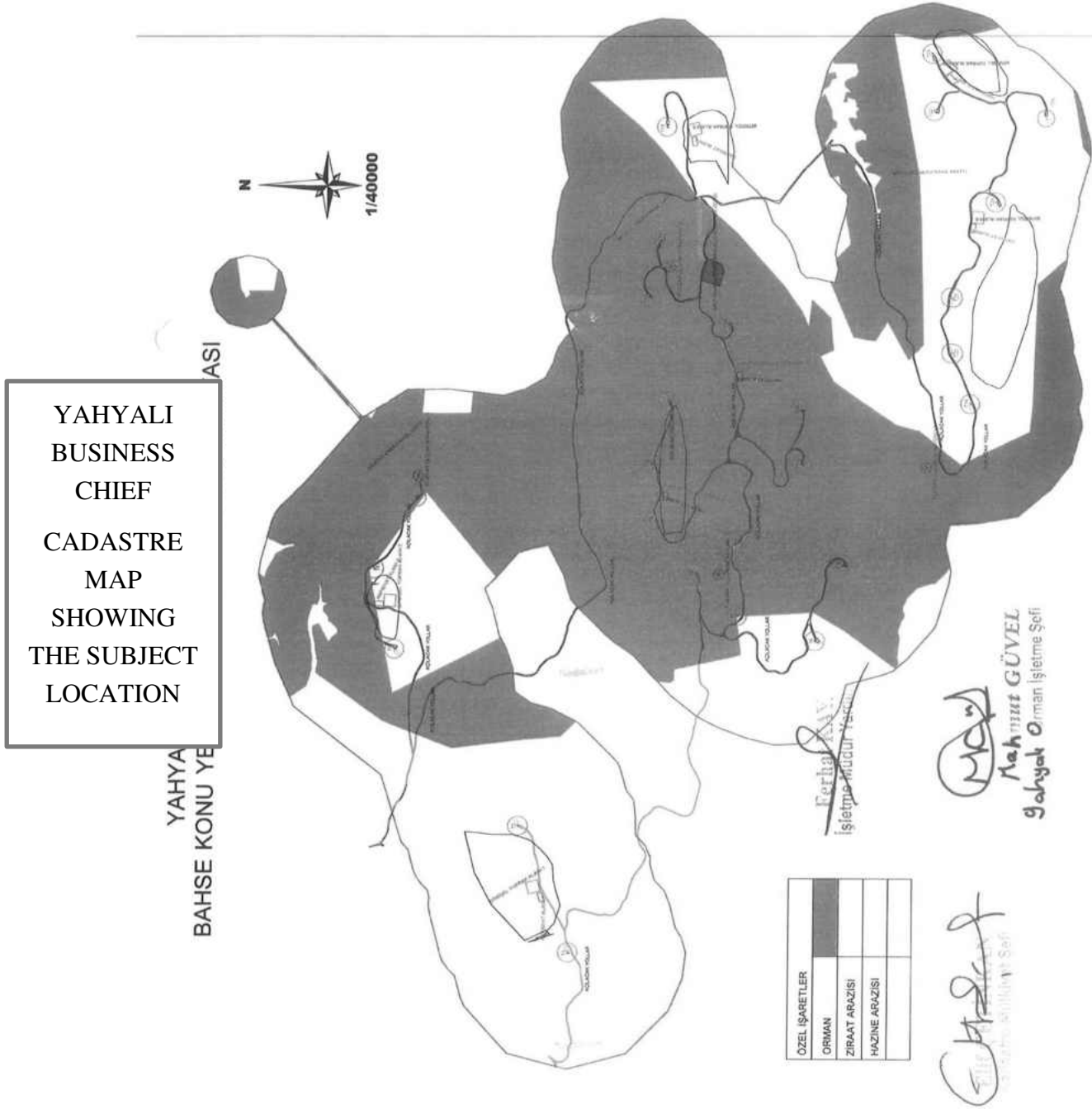


Special Marks
Enerjisa Boundary
Wooded Area
Division Boundary
Compartment Boundary




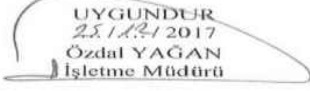
Faruk KAYA
Müdür Yardımcısı

M. Güvel
Düzenleyen
Mahmut GÜVEL
Yahyalı Orman İşletme Şefi

Emre ÇETİNKAN
Kadastro Müdürlüğü






EVALUATION FORM (For All Requests Evaluated Within the Scope of Circular No.
2014/1)

 BAŞKAN Ersoy KORUN İşletme Müdürü	 ÜYE Kenan ÇETİN Yahyalı Orm. İşlt. Şefi V.	 ÜYE Elif ÇETİN KAN Kadastro ve Mülkiyet Şefi
		 UYGUNDUR 25.12.2017 Özdal YAĞAN İşletme Müdürü

OPINION OF THE DELEGATION: There is no harm in considering the above-mentioned request within the scope of the Ministry's Approval No. 01 and dated 02.06.2017 regarding the circular numbered 2014/1 and the implementation of the circular. 25/12/2017

There is no harm in considering the above-mentioned request within the scope of the Ministry's Approval No. 01 and dated 02.06.2017 regarding the circular numbered 2014/1 and the implementation of the circular.

Uygun görüldü arz ederim. 25 / 12 / 2017  Halil YÖRÜKOĞLU Bölge Müdür Yardımcısı	25 / 12 / 2017 İzin ve Trafik Şube Müdürü  Çiğdem BEKMEZ İzin ve Trafik Ş. B. Ş. 25/12/2017
ONAY 25 / 12 / 2017 Orman Bölge Müdürü  Adnan DİLKEŞİT Bölge Müdürü	

TURKISH REPUBLIC
FOREST MANAGEMENT
DEPARTMENT OF FIGHTING FOREST FIRES

20.10.2017

Issue: 12947245-255.03/-E.2202100

Subject : Institutional Opinion (Erciyes Wind Energy
Power Plant Project)

TO KAYSERİ FOREST REGIONAL DIRECTORATE

Reference: Your letter dated 18.10.2017 and numbered 48650282-255.03-E.2194080,

In the area within the boundaries of Enerjisa's Kayseri Province, Yahyalı District, Sorgun, Karakuyu, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills locations, your letter of interest regarding the wind power plant permit request has been examined.

Provided that the necessary measures regarding forest fires are taken by the relevant company and the following issues are fulfilled, our Department does not have any objections in meeting the permission request.

1- If there is a facility belonging to our General Directorate in the area subject to the permit, meeting the electrical energy need of this facility,

2- When necessary, installing a relay device belonging to the OGM, sufficient number of cameras or other technical equipment,

3- In places where internet is available, OGM (General Directorate of Forestry) can benefit from this service free of charge,

4-Security in the facility, etc. If there is a camera that sees the forest in the camera system to be installed for this purpose, use it for the purpose of monitoring forest fires or, if necessary, install an additional camera for this purpose,

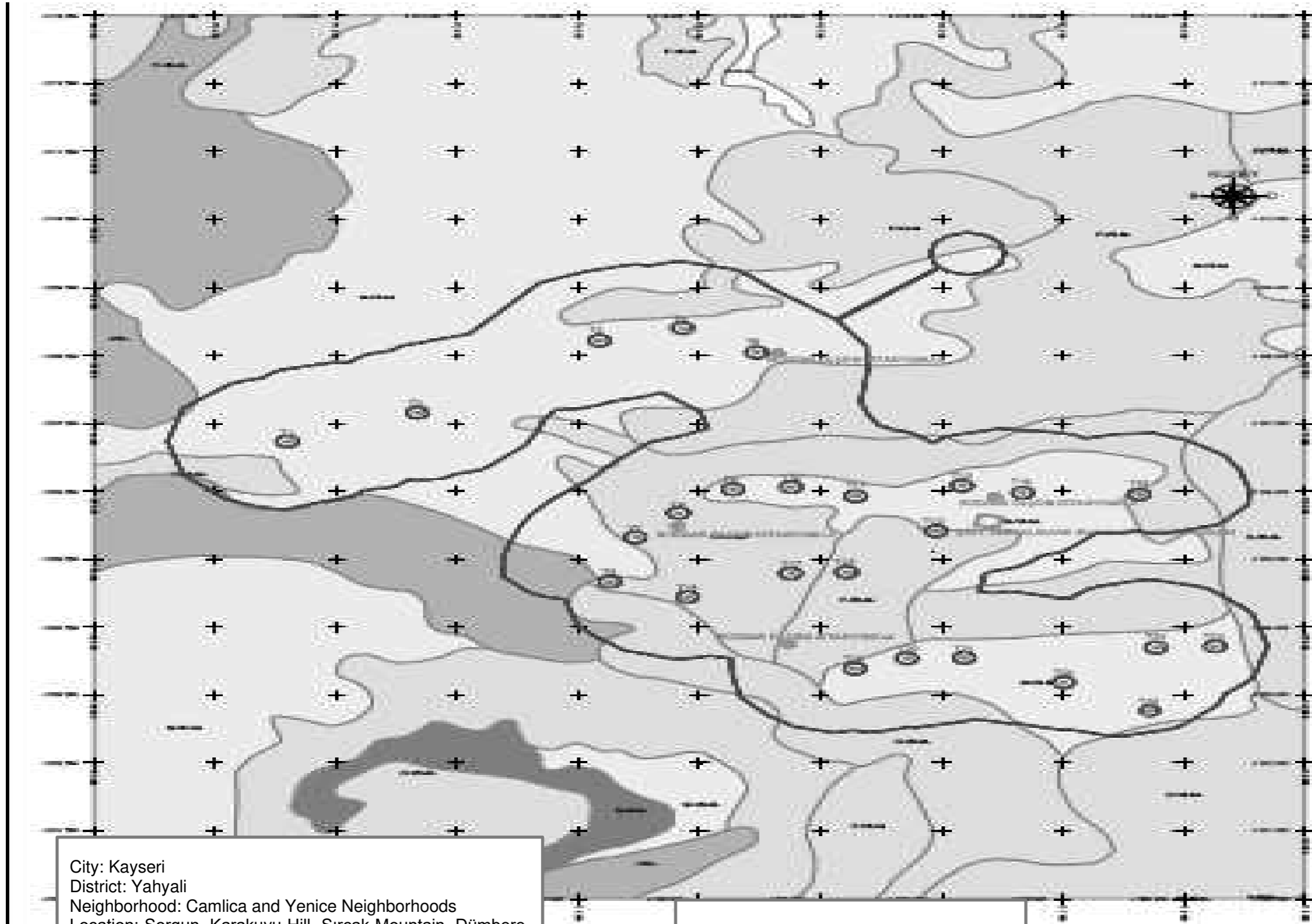
5-Turbine, antenna etc. to be installed in the facility. Utilization of the poles by the OGM when necessary, 6-There are warning lights on the turbines,

7- The information required by the Forestry Administration from the meteorological data in the field where the wind turbines are located should be conveyed to the relevant parties through an interface software to be provided by the company, etc.

I request your information.

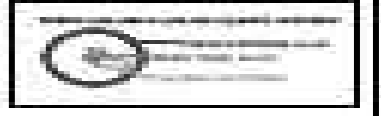
& e-signed Mihtat ATEŞ Head of Department

ANNEX -9
Land Asset Map



ERCIYES WPP TURBINE
COORDINATES

Turbine No	Latitude	Longitude
1	37.810000	35.480000
2	37.810000	35.480000
3	37.810000	35.480000
4	37.810000	35.480000
5	37.810000	35.480000
6	37.810000	35.480000
7	37.810000	35.480000
8	37.810000	35.480000
9	37.810000	35.480000
10	37.810000	35.480000
11	37.810000	35.480000
12	37.810000	35.480000
13	37.810000	35.480000
14	37.810000	35.480000
15	37.810000	35.480000
16	37.810000	35.480000
17	37.810000	35.480000
18	37.810000	35.480000
19	37.810000	35.480000
20	37.810000	35.480000
21	37.810000	35.480000
22	37.810000	35.480000
23	37.810000	35.480000
24	37.810000	35.480000
25	37.810000	35.480000



COORDINATES OF POWER
PLANT (EIA AREA)

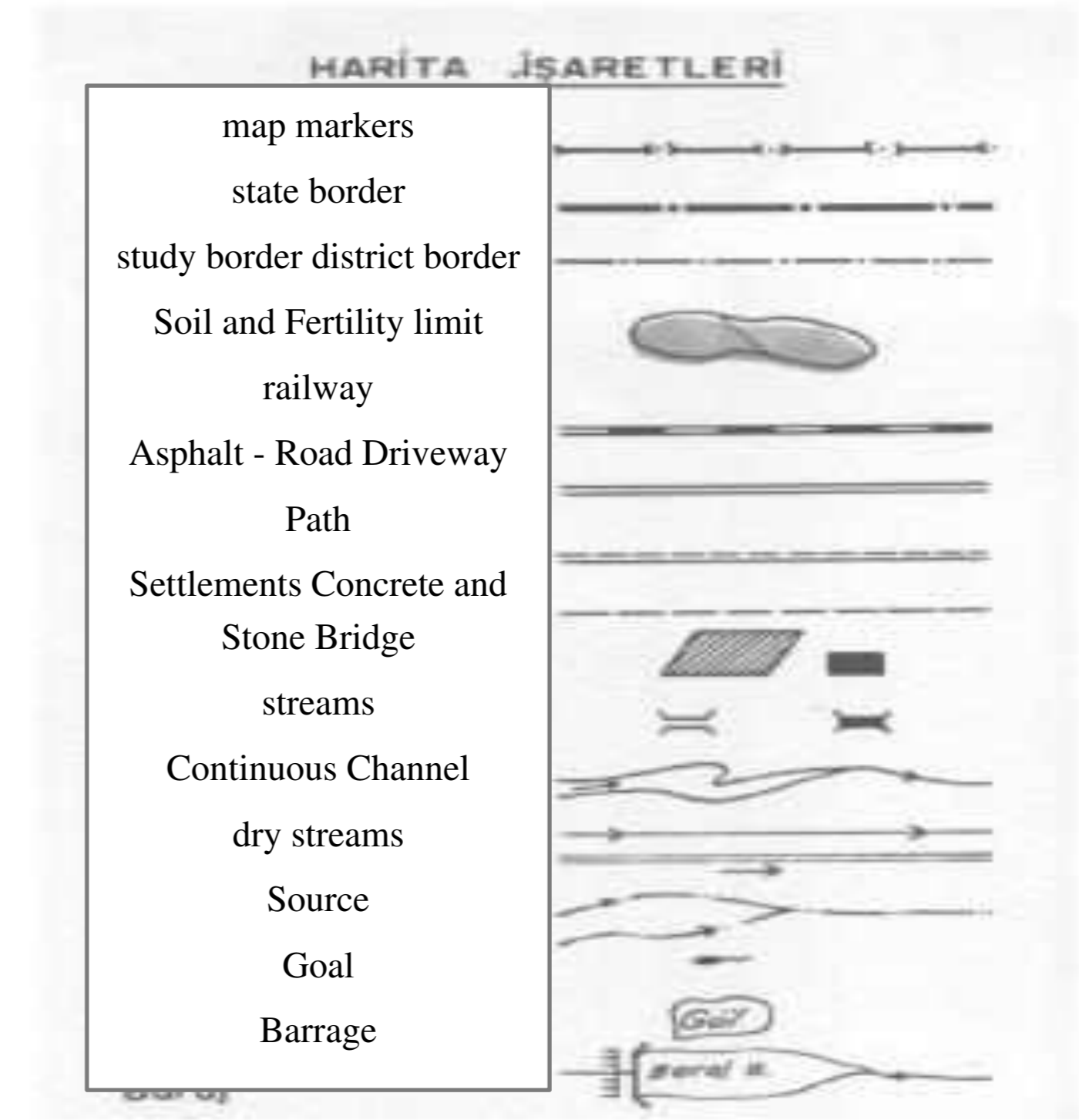
Turbine No	Latitude	Longitude
1	37.810000	35.480000
2	37.810000	35.480000
3	37.810000	35.480000
4	37.810000	35.480000
5	37.810000	35.480000
6	37.810000	35.480000
7	37.810000	35.480000
8	37.810000	35.480000
9	37.810000	35.480000
10	37.810000	35.480000
11	37.810000	35.480000
12	37.810000	35.480000
13	37.810000	35.480000
14	37.810000	35.480000
15	37.810000	35.480000
16	37.810000	35.480000
17	37.810000	35.480000
18	37.810000	35.480000
19	37.810000	35.480000
20	37.810000	35.480000
21	37.810000	35.480000
22	37.810000	35.480000
23	37.810000	35.480000
24	37.810000	35.480000
25	37.810000	35.480000

City: Kayseri
 District: Yahyali
 Neighborhood: Camlica and Yenice Neighborhoods
 Location: Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere,
 Dümbere Hill and Elma Çukuru Hills Location,
 Project Name: Erciyes Wind Power Plant
 Installed Capacity: 65 MWn/65 MWn
 Number of Turbines: 25 Units (25 X (2.6 MWe)
 Project Owner: EnerjiSa Enerji Üretim A.Ş.
 Sheet No: L34 - C3, M34 - B2
 Land Asset Map
 Scale : 1/25,000

LEGEND AND IMAGES

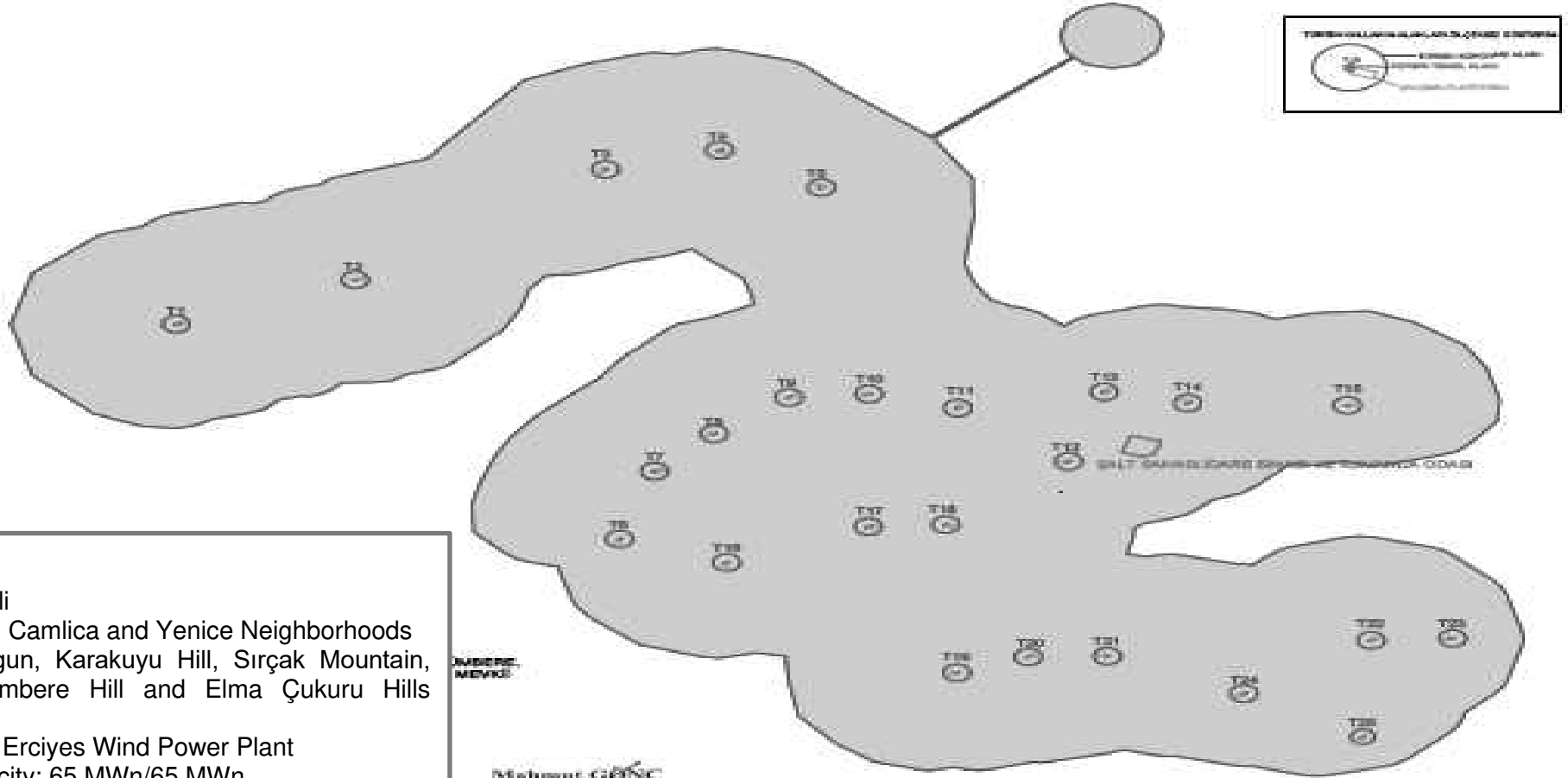
	Forest and Heather
	Dry Farming (Fallow)
	Meadow
	Dry Farming (No Fallow)
	Valley and Land Use Status Unknown

LARGE SOIL GROUP		SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
I	Red Sara Podzolic Soils Podzolic Soils Brown Forest Soils Limeless Brown Forest Soil. Chestnut Soils Mixed Chestnut Soils Red Mediterranean Soils Limeless Brown Mediterranean Soils. 6-12 Brown Soils Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
II	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
III	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
IV	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
V	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
VI	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
VII	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
VIII	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
IX	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm
X	Limeless Brown Soils Reddish Brown Soils 12-20 Rendzinas Vertisols Sierosems Regosols Basaltic Soils High Mountain Grassland Soils	SLOPE - DEPTH COMBINATION					OTHER SOIL PROPERTIES		
		0-10%	10-20%	20-30%	30-40%	40-50%	0-10cm	10-20cm	20-30cm



ANNEX -10

Protected Areas Map and Vegetation Map

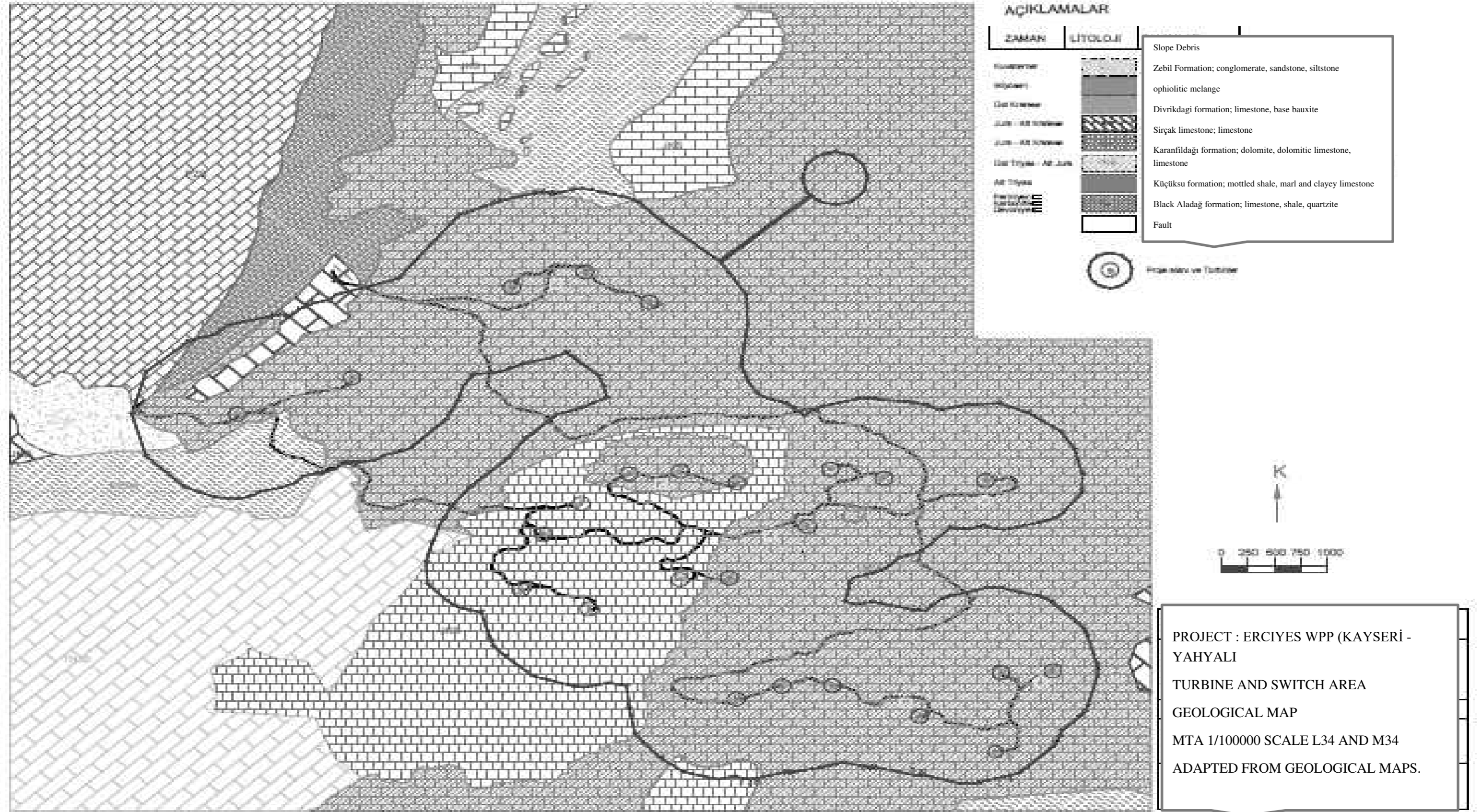


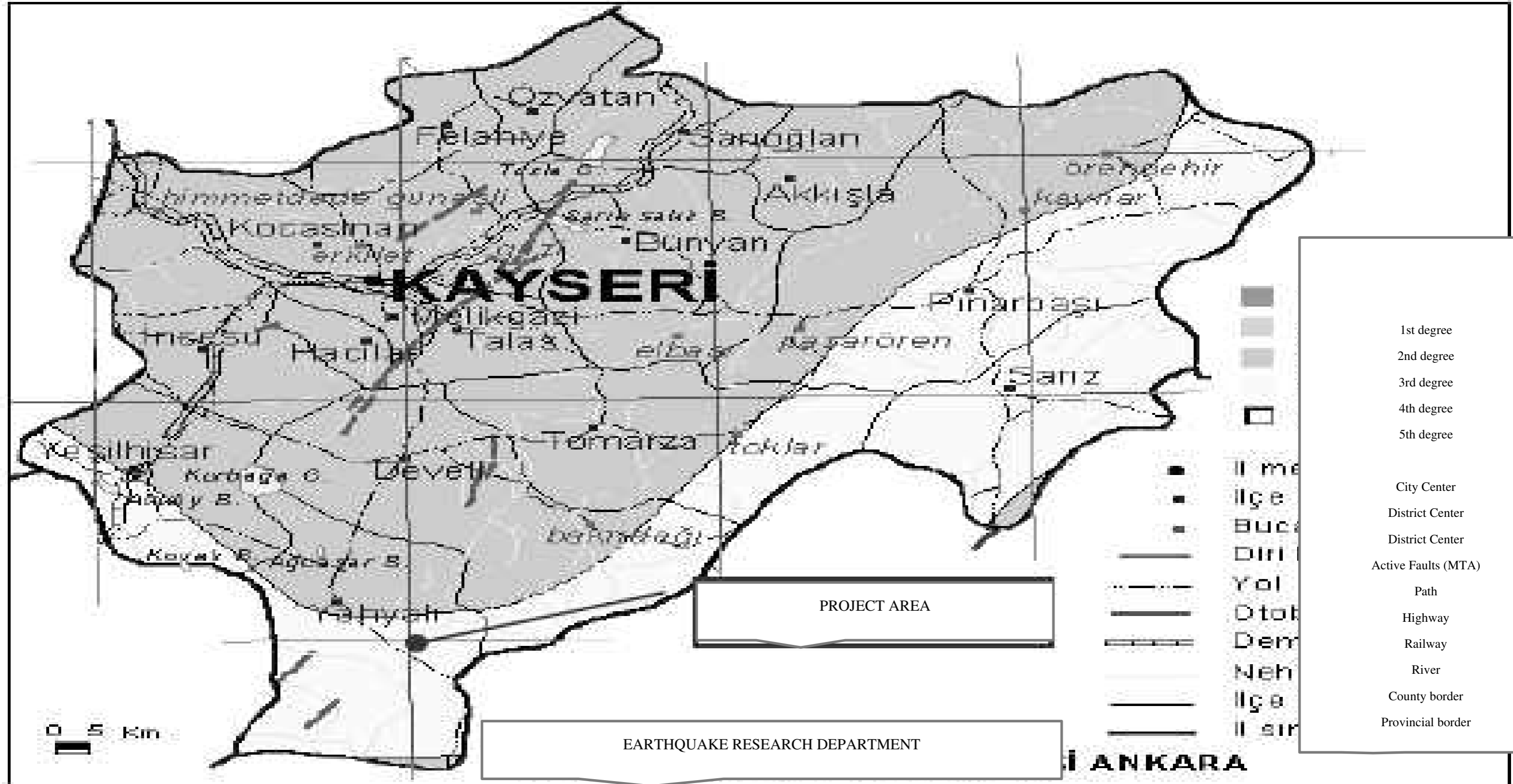
City: Kayseri
District: Yahyali
Neighborhood: Camlica and Yenice Neighborhoods
Location: Sorgun, Karakuyu Hill, Sırçak Mountain,
Dümbere, Dümbere Hill and Elma Çukuru Hills
Location,
Project Name: Erciyes Wind Power Plant
Installed Capacity: 65 MWn/65 MWn
Number of Turbines: 25 Units (25 X (2.6 MWe)
Project Owner: EnerjiSa Enerji Üretim A.Ş.
Sheet No: L34 - C3, M34 - B2
STEP VEGETATION

Mehmet ÇİĞİNCİ
Çevre Mühendisi
E-Posta: No: 4950

ANNEX -11

Septic Tank Plan and KASKİ Sewage Letter

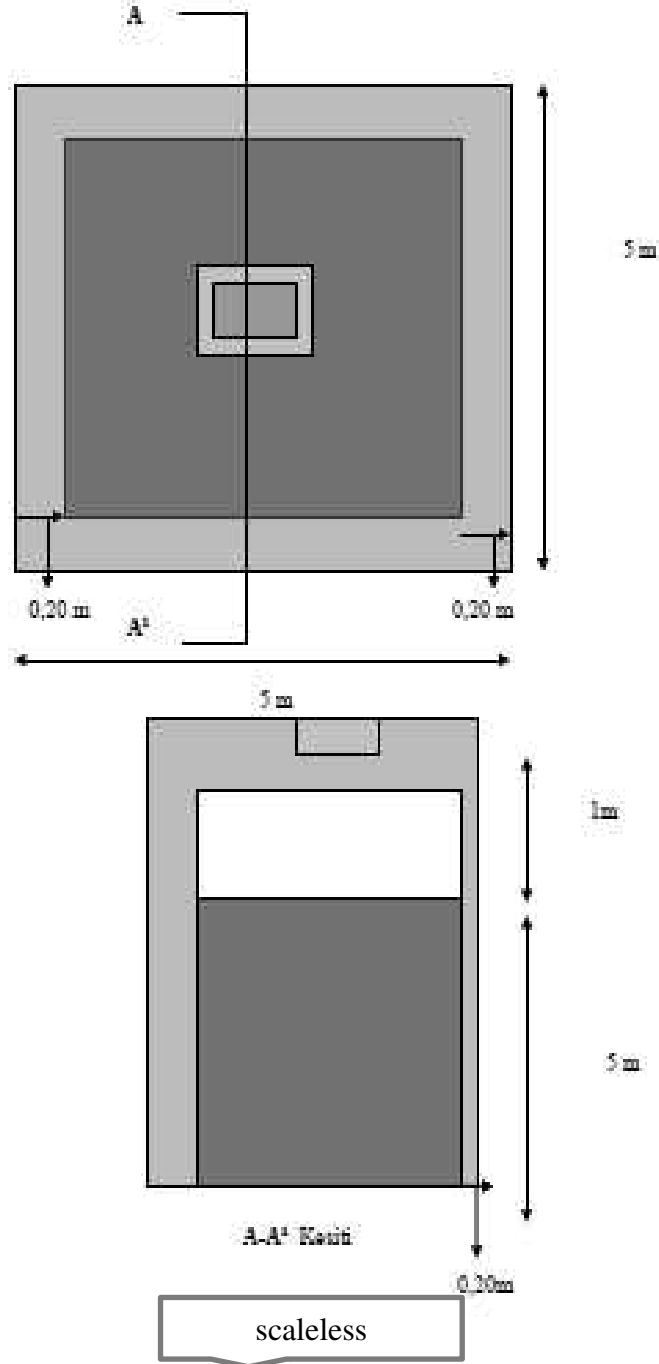




HAZIRLAYAN
T.C. ÇEVRE, ŞEHİRCİLİK VE KLİMA BAKANLIĞI
MÜHÜRÜ
12.05.2017

ANNEX -12

Yahyalı Municipality Letters on Solid Waste Disposal and Water Supply



TURKISH REPUBLIC

KAYSERİ METROPOLITAN MUNICIPALITY GENERAL DIRECTORATE OF WATER AND
SEWAGE ADMINISTRATION

Environmental Protection and Control Department Wastewater Inspection and License Branch Office

20.11.2017

Issue : : 33877174-611-E.5358

Subject : Protocol Request

AKTİF ÇEVRE ULUS.ÇEVRE YATIRIMLARI MÜH. VE DANS. LTD. ŞTİ.
(Department of permission and easement)

Relevant: Petition dated 16.11.2017 and numbered EIA 2017/554.

In the petition, Domestic wastewater that will originate from the personnel to be employed shall be transported by vacuum trucks, in the construction and operation phases of "Erciyes Wind Power Plant (25 Turbines, 65MWm/65 MWe) project" planned to be built in Kayseri province, Yahyalı district, Çamlıca and Yenice Mahallesi, Sorgun, Karakuyu Hill, Surçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills Locations. It is requested to make a protocol with our General Directorate so that it can be discharged to KASKİ Wastewater Treatment Plant or KASKİ Sewerage Network. A protocol shall be made if it is determined that the waste water is of domestic nature as a result of the on-site inspection at the facility at the mentioned address after the establishment mentioned in the petition has started to operate.

kindly submitted for your information

TURKISH REPUBLIC
YAHYALI MUNICIPALITY
Cleaning Affairs Directorate

15.11.2017

Issue : : 34965130-312-E.2687
Subject : Domestic Solid Waste Receipt

AKTİF ÇEVRE ULUS.ÇEVRE YATIRIMLARI MÜH. VE DANS. LTD. ŞTİ.
(Department of permission and easement)

Relevant: Your letter dated 08/11/2017 and numbered 2017/553

Your domestic solid wastes that you have requested in your letter shall be collected by our Municipality teams, but in order to benefit from the vacuum truck service, You need to apply to the General Directorate of KASKİ.

kindly submitted for your information

Date : 08.11.2017

Issue: EIA 2017/553

Subject : About Domestic Solid Waste Receiving and Vacuum Service.

TURKISH REPUBLIC
TO YAHYALI MUNICIPALITY
YAHYALI/KAYSERİ

The EIA process, regarding the ERCİYES WIND POWER PLANT (25 Turbines, 65 MWm/65 MWe) project by ENERJİSA ENERJİ ÜRETİM A.Ş., in Kayseri province, Yahyalı district, Çamlıca and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills, is carried out by our company.

To be used in the EIA Report for the activity in question, Your opinion is needed on whether the domestic solid wastes that will be generated during the construction and operation phases of the facility can be collected by the teams of your Municipality and whether it is appropriate to use the vacuum truck service in return for the fee of the domestic liquid wastes to be generated during the construction and operation phases. In this direction, I request you to give your opinion of the institution to us.

Issue: 95863820-060.11-E.2812

04/12/2017

Subject : Water Service

TURKISH REPUBLIC
TO YAHYALI MUNICIPALITY
Directorate Of Technical Works
YAHYALI/KAYSERİ

Relevant : Dated 24/11/2017 and numbered 558.

Regarding the aforementioned project in your related article, Tanker, vehicle and equipment and all expenses related to the potable water to be required during the construction and operation phase of the facility can be met by our Municipality in return for a fee, provided that the investor is provided by the institution.

Date : 24.11.2017

Issue: EIA.2017/558

Subject : About Vacuum Service.

YAHYALI MUNICIPALITY

TO Directorate Of Technical Works

YAHYALI/KAYSERİ

The ongoing EIA process, regarding the ERCİYES WIND POWER PLANT (25 Turbines, 65 MWm/65 MWe) project, by ENERJİSA ENERJİ ÜRETİM A.Ş. , in Kayseri province, Yahyalı district, Çamlıca and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills, in the eye of the Ministry of Environment and Urbanization is carried out by our company.

To be used in the EIA Report prepared for the aforementioned project, Your written opinion is required regarding the possibility that the utility water that will be required during the construction and operation phase of the facility can be met by our tankers in return for a fee.

In this respect, we kindly request that your opinion of the institution be given to us in writing.

ANNEX -13
**Opinion of Kayseri Metropolitan Municipality Directorate of
Reconstruction and Urbanization**

TURKISH REPUBLIC

KAYSERİ METROPOLITAN MUNICIPALITY
Department of Zoning and Urbanization

09.11.2017

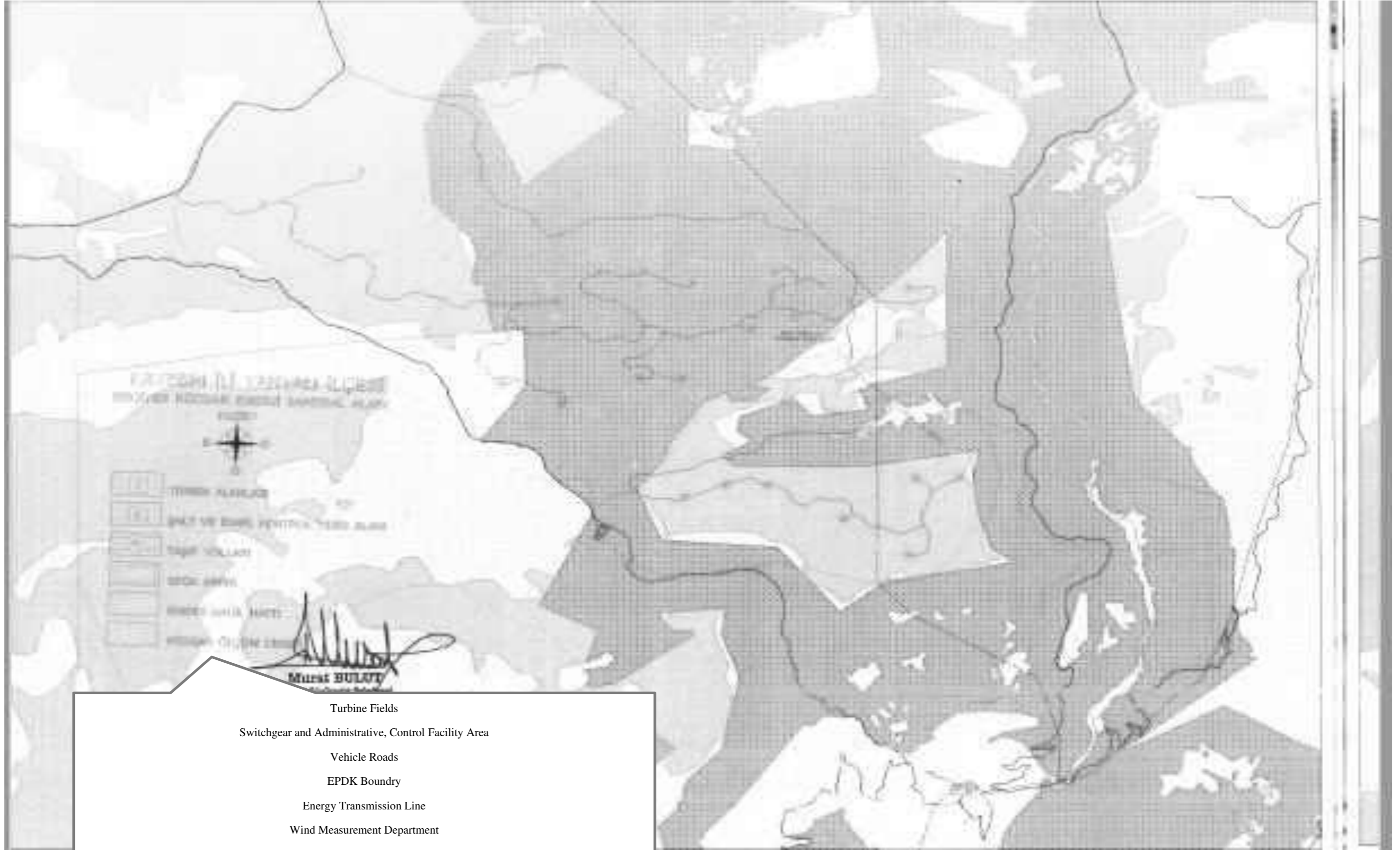
Issue : : 32845575-754-E.2017-1631/16560

Subject : About the Institution's Opinion.

GÜLEKER ENERJİ ÜRETİM LTD. ŞTİ.
İlkbahar Mah. Galip Erdem Cad. 621. Sok. No:6
Çankaya/ANKARA

Relevant: Your petition dated 07.11.2017.

In your petition, Regarding the wind power plant planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri Province, Yahyalı District, Yenice and Çamlıca Neighborhoods, Our institution is requested to renew the opinion of our institution given to you with our letter dated 16.02.2015 and numbered 2282 on whether there is any legislative obstacle in front of the zoning plan studies. In the aforementioned Kayseri Province, Yahyalı district, Yenice and Çamlıca Neighborhoods, 1/25,000 scaled M34-b2 and L34-c3 maps, There are no 1/1000 and 1/5000 scaled zoning plans for the areas whose coordinates are specified in the related article. In the 1/50.000 scaled Kayseri 1 Whole Environmental Plan, agricultural land, meadow-pasture area and forest area are planned. If the positive opinions to be received from the relevant institutions in the said field are completed, our institution does not have any inconveniences.
kindly submitted for your information



ANNEX -14

Opinion of Kayseri Provincial Directorate of Environment and Urbanization, Directorate of Conservation of Natural Assets

TURKISH REPUBLIC

KAYSERİ GOVERNORSHIP

Provincial Directorate of Environment and Urbanization

25.10.2017

Issue : : 16046621-045.01-E.9787

Subject : Institutional Opinion

TO ENERJİSA ENERJİ ÜRETİM A.Ş

İlkbahar Mah. Galip Erdem Cad. 621. Sok. No:6 Çankaya/ANKARA

Relevant: Petition dated 10.10.2017.

With the petition, the opinion of our Provincial Directorate, which will be the basis for the construction plan, regarding the "Wind Power Plant" facility, which is planned to be established by you in the area whose coordinates are given in the appendix of your article, within the borders of Yahyalı District, Yenice and Çamlıca Neighborhoods, is requested.

The immovable, the information of which is in the appendix of the letter of reference, has been evaluated within the scope of natural protected areas and natural assets. In accordance with the Law No. 2863 on the Protection of Cultural and Natural Assets, It does not exist as a natural asset or natural site. The said area is not within the scope of the Coastal Law No. 3621. Due to its status as "Forest Area, Agricultural Land and Meadow-Passage Area" in the 1/100.000 scaled Environmental Plan, There is no harm in making an implementation and master development plan, provided that the conditions specified in the plan notes and plan provisions are complied with and opinions are received from the relevant institutions and organizations.

I hereby submit for your information.

ANNEX -15
Opinion of Kayseri Cultural Heritage Preservation Regional
Board Directorate

TURKISH REPUBLIC

CULTURE AND TOURISM MINISTRY

Kayseri Cultural Heritage Preservation Regional Board Directorate

30.10.2017

Issue : 67141141/165- (38.10/126)-2011

Subject : About Kayseri province, Yahyalı district, Yenice and Çamlıca neighborhoods, Erciyes WPP Project area

ENERJİSA ENERJİ ÜRETİM A.Ş

İlkbahar Mah. Galip Erdem Cad. 621. Sok. No:6 Çankaya/ANKARA

Reference : a) Enerjisa Enerji Üretim A.Ş.'s letter dated 10.10.2017 and numbered 2017-77.

b) The letter of the Ministry of Environment and Urbanization dated 06.10.2017 and numbered e.15830. Located within the borders of Kayseri province, Yahyalı district, Yenice and Çamlıca Neighborhoods and reference,

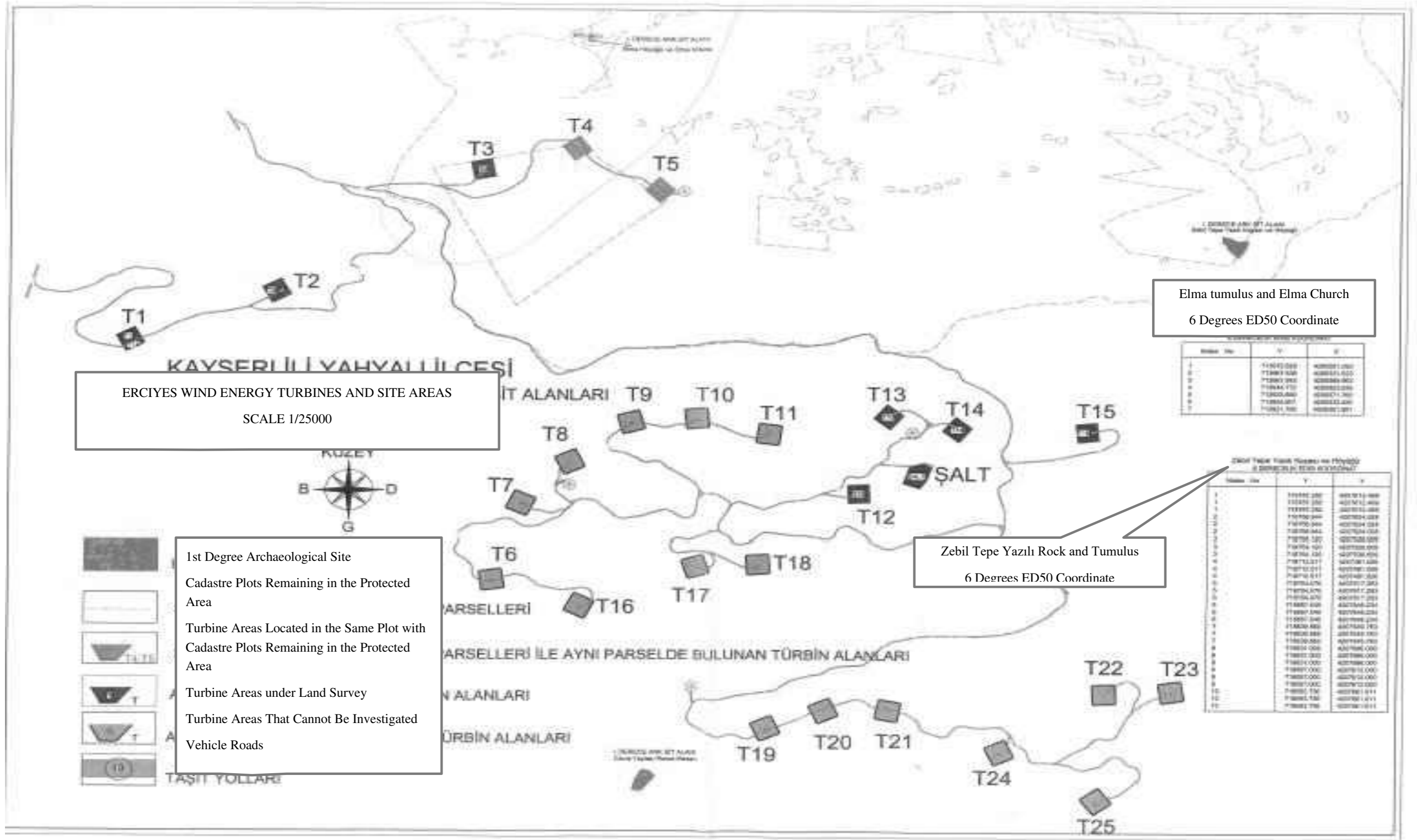
The area located within the borders of Yenice and Çamlıca Neighborhoods, Yahyalı district of Kayseri province and marked on the maps of interest (a) has been examined in accordance with the information and documents provided. In order to ensure that a difficult process is entered in terms of climatic conditions and time is acted against, and for this purpose, our investment is put into operation as soon as possible, Regarding whether there is a protected area and a registered structure in the Erciyes WPP facility area in accordance with the Law No. 2863 and Regarding whether there is any inconvenience in the construction of a Wind Power Plant to to the Zoning Plan, (b) article of reference examined. Regarding reference (a), in conveying our opinion of the institution that will form the basis for Forest Allocation Procedures and Environmental Impact Assessment Report and for the aforementioned project, within the framework of our institution's legal authority, duties and responsibilities, the relevant letter (b) has been examined to send our opinion on the EIA application file included in the online EIA Process Management System until 06.11.2017.

In the file analysis carried out in the archive of our Directorate regarding 25 turbines and 1 switchgear, which are indicated with coordinates on the 1/25000 scaled map in the annex of our article, Turbine locations marked as T4 and TS on the attached 1/25000 scale map, are understood that they are located on the immovable whose ownership is registered in the name of the public common property (pasture) with no. 665, parcel number 419, and located on Zebil Tepe Yazılı Rock and Mound, which was registered as a first-degree archaeological site with the decision of our Board dated 20.11.2014 and numbered 1300, and Elma Mound, which was registered as an L.degree Archaeological site with the decision of our Board dated 12.01.2017 and numbered 2456. Although the turbine locations marked as T4 and T5 on the attached map do not step into the registered areas as first degree archaeological sites, since it is on the same parcel, The issue of planting the turbines in the said area should be evaluated by the Kayseri Cultural Heritage Preservation Regional Board.

T1, T2, T3, T12, T13, T14, T15 and switchyard, which are legitized as turbine areas on the map, from 25 turbine areas and 1 salt field, whose locations are indicated with coordinates on the attached map, have been examined on-site by us. In the on-site inspection, It has been understood that these areas are located outside the protected area, and there are no registration records as immovable cultural property to be protected. As a result of the surface examination on the immovables; No immovable cultural property that could fall within the scope of the law numbered 2863 was found. However, during possible excavation works to be carried out on the immovables, In case any finds or relics are found, the work must be stopped and the nearest museum directorate or the headman in the village or the local authorities in other places must be informed, pursuant to Article 4 of the Law No. 2863.

The examination of the 25 turbine locations, which are legitized as areas where land survey cannot be made on the attached map, could not be examined due to the difficulty of the location of the areas, the absence of road transportation and land vehicles. After the completion of the on-site inspection work within the scope of Law No. 2863 by the experts of our Directorate for the uninspected turbine sites, the opinion of our institution regarding the areas shall be notified to you separately.

I hereby submit for your information.



TURKISH REPUBLIC

CULTURE AND TOURISM MINISTRY

Kayseri Cultural Heritage Preservation Regional Board Directorate

09.11.2017

Issue : 67141141/165- (38.10/126)- 2229

Subject : About Kayseri province, Yahyalı district, Yenice and Çamlıca neighborhoods,
Erciyes WPP Project area

ENERJİSA ENERJİ ÜRETİM A.Ş

İlkbahar Mah. Galip Erdem Cad. 621. Sok. No:6 Çankaya/ANKARA

Reference : a) Letter of Enerjisa Enerji Üretim A.Ş. dated 10.10.2017 and numbered 2017-77.

b) The letter of the Ministry of Environment and Urbanization dated 06.10.2017
and numbered e.15830.

c) Our letter dated 30.10.2017 and numbered 2111.

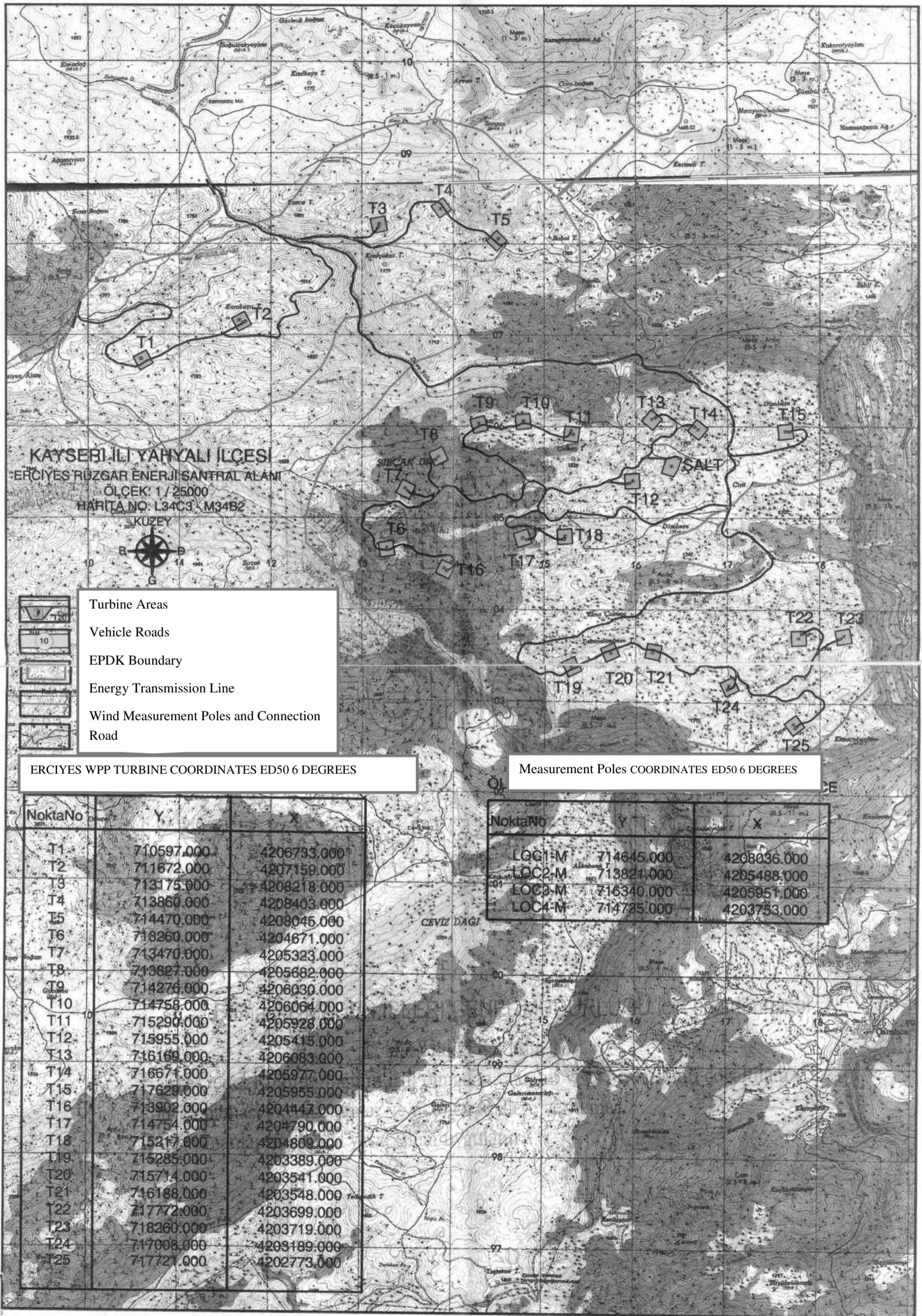
The area located within the borders of Yenice and Çamlıca Neighborhoods, Yahyalı district of Kayseri province and marked on the maps of interest (a) has been examined in accordance with the information and documents provided. In order to ensure that a difficult process is entered in terms of climatic conditions and time is acted against, and for this purpose, our investment is put into operation as soon as possible, Regarding whether there is a protected area and a registered structure in the Erciyes WPP facility area in accordance with the Law No. 2863 and Regarding whether there is any inconvenience in the construction of a Wind Power Plant to to the Zoning Plan, (b) article of reference examined. Regarding reference (a), in conveying our opinion of the institution that will form the basis for Forest Allocation Procedures and Environmental Impact Assessment Report and for the aforementioned project, within the framework of our institution's legal authority, duties and responsibilities, the relevant letter (b) has been examined to send our opinion on the EIA application file included in the online EIA Process Management System until 06.11.2017.

In the file analysis carried out in the archive of our Directorate regarding 25 turbines and 1 switchgear, which are indicated with coordinates on the 1/25000 scaled map in the annex of our article, Turbine locations marked as T4 and TS on the attached 1/25000 scale map, are understood that they are located on the immovable whose ownership is registered in the name of the public common property (pasture) with no. 665, parcel number 419, and located on Zebil Tepe Yazılı Rock and Mound, which was registered as a first-degree archaeological site with the decision of our Board dated 20.11.2014 and numbered 1300, and Elma Mound, which was registered as an L.degree Archaeological site with the decision of our Board dated 12.01.2017 and numbered 2456. Although the turbine locations marked as T4 and T5 on the attached map do not step into the registered areas as first degree archaeological sites, since it is on the same parcel, The issue of planting the turbines in the said area should be evaluated by the Kayseri Cultural Heritage Preservation Regional Board. Your interest (c) was sent to you with our letter, and the decision to be taken by the Kayseri Cultural Heritage Preservation Regional Board regarding the application requested at the turbine sites no T4 and T5 shall be sent to you separately.

T1, T2, T3, T12, T13, T14, T15 and switchyard, which are legitimized as turbine areas on the map, from 25 turbine areas and 1 salt field, whose locations are indicated with coordinates on the attached map, have been examined on-site by us. In the on-site inspection, It has been understood that these areas are located outside the protected area, and there are no registration records as immovable cultural property to be protected. As a result of the surface examination on the immovables; No immovable cultural property that could fall within the scope of the law numbered 2863 was found. The inspection of turbine locations and measurement mast locations within the Erciyes WPP area, which is planned to be built in Kayseri province, Yahyalı district, Yenice and Çamlıca neighborhoods, and whose examination could not be completed with our reference (c), has been completed within the scope of Law No. 2863. Turbine and measuring mast locations, whose locations are marked with coordinates on the attached 1/25000 scale map, are located outside the protected area. There is no registration record as required immovable cultural property. As a result of the surface examination carried out by the experts of our directorate on the turbine and measuring mast locations, no immovable cultural property to be protected that could be included in the scope of the law numbered 2863 was found.

However, if any finds or remains are found during the possible excavation works to be carried out on these areas, the works should be stopped and the nearest museum directorate or the headman in the village or the local authorities in other places should be informed, pursuant to Article 4 of the Law No. 2863.

I hereby submit for your information.



TURKISH REPUBLIC

CULTURE AND TOURISM MINISTRY

Kayseri Cultural Heritage Preservation Regional Board Directorate

29.11.2017

Issue : 671.41141....050.01.04- (38.10/126) - 2331

Subject : About Kayseri province, Yahyalı district, Yenice and Çamlıca neighborhoods, Erciyes WPP
Project area

Reference :

The decision of the Kayseri Cultural Heritage Preservation Regional Board, dated 23.11.2017
and numbered 2958, on the subject, the essence of which is stated above, is attached.

I hereby submit for your information.

TURKISH REPUBLIC

CULTURE AND TOURISM MINISTRY

Kayseri Cultural Heritage Preservation Regional Board Directorate

29.11.2017

DECISION

Meeting Number and Date 192 - 23.11.2017

Decision No and Date: 2958 - 23.11.2017

Meeting Place : KAYSERİ

Examining the area marked on the attached maps, located within the borders of Kayseri province, Yahyalı District, Yenice and Çamlıca District, in line with the information and documents provided, in order to ensure that a difficult process is entered in terms of climatic conditions and time is acted against, and for this purpose, my investment is put into operation as soon as possible, The letter dated 06.10.2017 and numbered e.15830 of the General Directorate of Environmental Impact Assessment, Permit and Inspection of the Ministry of Environment and Urbanization and the report of the Rapporteur of the Regional Board of Protection dated 10.11.2017 and numbered 4837 were read, regarding whether there is a protected area and a registered structure in the Erciyes WPP facility area in accordance with the Law No. 2863, regarding whether there is any objection in the construction of a wind power plant, regarding the submission of the opinion of the institution that will form the basis for the zoning plan, forest allocation procedures and environmental impact assessment report, regarding Enerjisa Enerjisa Enerji Üretim A.Ş's letter dated 10.10.2017 and numbered 2017-77, within the framework of the legal authority, duties and responsibilities of the Regional Board Directorate for the Erciyes WPP project, regarding sending the opinion of the institution about the EIA application file in the online EIA process management system. The rapporteur's statements were listened, the information and documents in his file were examined, as a result of the interviews;

As seen in the 1/25000 scale map of our decision, the locations of turbines and wind measurement poles T4 and T5, located in the "Erciyes WPP" wind power plant area, which is planned to be established in Kayseri province, Yahyalı district, Yenice and Çamlıca Neighborhoods, with the decision of our Board dated 12.01.2017 and numbered 2456, with Zebil Tepe Yazılı Rock and Mound, which was registered as a first degree archaeological site with the decision of our Board dated 20.11.2014 and numbered 1300, It has been understood that the 663 island, where Elma Mound and Elma Church are located, which are registered as 1st degree Archaeological Sites, are located in the forest immovable property no. 419 registered in the name of the Treasury of Finance. However, since it is seen that the closest distance of T4 and TS numbered turbine and wind measurement poles to the protected areas is approximately 800 m and it does not have a negative effect on the nature of the protected area, In the event that any finds or remains are encountered during the works to be carried out, during the construction of the said turbine and wind measurement pole facility, It has been decided that there was no objection within the scope of the law numbered 2863, provided that the works were stopped and the nearest Museum Directorate or local authorities were informed pursuant to Article 4 of Law No. 2863.

ANNEX -16
TEIAS Opinion

TURKEY ELECTRICITY TRANSMISSION INC. GENERAL DIRECTORATE
11th REGIONAL DIRECTORATE (KAYSERİ)
11th REGIONAL ASSISTANCE MANAGER (FACILITY)
Facility and Control Directorate

09.11.2017

Issue : : 21543042-752.02 (752.02) E.433742
Subject : Institutional Opinions (About Erciyes WPP)

ENERJİSA ÜRETİM ANONİM ŞİRKETİ
Sabancı Centre Kule 2 34330 4.Levent
BEŞİKTAŞ/İSTANBUL

Relevant: Your letter dated 03.11.2017

In your registered writing,

Our Institutional Opinion is requested as to whether there is any inconvenience in the installation of the Erciyes Wind Power Plant (WPP) project, which is planned to be built within the borders of the Yenice and Çamlıca neighborhoods of Yahyalı, Kayseri Province, in the area specified in the map sent in the appendix to your letter.

Within the said field, 154 kV Yenişehir - Çamlıca I HEPP EİH belonging to our enterprise passes through. Forest permissions for the line in question were obtained in 1998. In terms of the approach distances that should be between wind power plants and 380 and 154 kV ETLs, There is no inconvenience for our Institution in the installation of wind turbines at the specified locations.
kindly submitted for your information

ANNEX-17
Opinion of the Ministry of National Defense, General Directorate
of State Airports Authority and General Directorate of Civil
Aviation

UNCLASSIFIED
TURKISH REPUBLIC
MINISTRY OF NATIONAL DEFENSE REGIONAL REGIONAL DIRECTORATE OF
CONSTRUCTION
SİVAS

09.11.2017

CONSTRUCTION PROPERTY: 82450458-4220-272664-17/Eml.Ş.
Subject : Erciyes WPP Zoning Plan (Kayseri in Yahyalı).

ENERJİSA ÜRETİM ANONİM ŞİRKETİ
İlkbahar Mah. Galip Erdem Cad. 621. Sokak No:6 ÇANKAYA / ANKARA

Relevant: "About Erciyes WPP" dated 08 November 2017 of Enerjisa Enerji Üretim A.Ş. article on the subject.

1. Opinions were asked with interest on whether the zoning plans prepared for the Erciyes Wind Energy Power Plant (WPP) project with an installed power of 65 MW, which will be built within the borders of Yenice and Çamlıca Neighborhoods of Yahyalı district in Kayseri province, in terms of Military Prohibition and Security Zones numbered 2565.

2. It has been determined by our Regional Presidency that there is no military zone, military prohibition and security zone (except for Gendarmerie General Command and Coast Guard Command) in the said region.

GENERAL DIRECTORATE OF STATE AIRPORTS ENTERPRISE
Construction and Real Estate Department

02/11/2017

Issue :40589487-755.01-E.109616

Subject : Erciyes Wind Power Plant

ENERJİSA ENERJİ ÜRETİM A.Ş. İlkbahar Mah. Galip Erdem Cad. 621. Sokak No:6
Çankaya/ANKARA

Reference: Letter dated 25.10.2017 and numbered

With a letter of interest, it is requested to send the opinions of our General Directorate on the Erciyes Wind Power Plant project planned to be established within the borders of Yahyalı district of Kayseri Province, and the 1/5000 scale Master Development Plan and the 1/1000 scale Implementation Development Plan related to it.

As a result of the evaluations made by our organization on the basis of the data in the annex of the relevant letter;

In terms of inspection and air navigation procedures; It has been determined that the turbines to be installed are approximately 45 NM south of Kayseri Airport, and it is evaluated that the installation of the said turbines will not adversely affect the existing procedures and air traffic services designed according to the ICAO Doc8168 Volume II Pans-Ops criteria for the said airport.

In terms of electronic systems; It has been determined that the project in the region specified in the google earth image file with the .kmz extension will not pose a problem in terms of the signal performance of the Electronic Systems under the responsibility of our Corporation.

As a result of the examination made on the basis of the file with the extension kml/.kmz included in the annex of the related letter in terms of operating criteria, it was determined that the said project location was outside the scope of the airport obstacle plans in our operation inventory.

However, in the construction plans within the scope of the project, the Circular on Construction Criteria around Airports, dated 24.07.2012 and numbered 1421, ICAO Annex-14 Volume 1 and SHT-HES criteria should not be violated.

On the other hand, since the aforementioned square is a civil/military joint airport, it is considered appropriate to obtain the opinions of the Military Authority regarding the installation of the turbines in question.

Turkish Republic
MARITIME TRANSPORT AND COMMUNICATIONS MINISTRY
Civil aviation general directorate

27.10.2017

Issue: 46715750-105.03-E.16328
Subject : Erciyes Wind Power Plant

ENERJİSA ÜRETİM ANONİM ŞİRKETİ
İlkbahar Mah. Galip Erdem Cad. 621. Sokak No:6 ÇANKAYA / ANKARA

Relevant: a) Circular dated 24/07/2012 and numbered B.11.1.SHG.0.10.01.05-2549/1421 on the Criteria for Construction Around Airports published on the corporate website of our General Directorate.

b) Regulation on Communication, Navigation, Surveillance Systems Obstacle Criteria published in the Official Gazette dated 23/08/2013 and numbered 28744

c) Airport Safety Standards Instruction (SHT-HES) dated 09/06/2016 published on the corporate website of our General Directorate.

ç) Decree Law No. 691 published in the Official Gazette dated 22 June 2017 and numbered 30104.

d) Your letter dated 25.10.2017.

Your reference (d) letter and its annexes have been examined; It has been determined that the structure in question is outside the boundaries of the airport plans open to civil air transportation. However, the construction of the said structure: It is considered appropriate by our General Directorate provided that following terms and conditions should be carried out;

- 1-Relevance (a) Compliance with the provisions of the Circular,
- 2-Relevance (b) Receiving the positive opinions of the CNS/ATM service provider in terms of the Regulation and Air Navigation procedures and its impact on CNS systems , (Limited to the airport they serve or the sector they are responsible for in the Turkish airspace, Institutions/organizations authorized to provide technical services in the fields of communication, navigation and surveillance by the Ministry of Transport, Maritime Affairs and Communications or in accordance with the relevant legislation)
- 3- Taking the positive opinions of the General Directorate of State Airports Authority regarding the fact that the aforementioned structure / structures do not pose a danger to aircraft, and presenting it to our General Directorate, In case the building / structures to be built are 150 meters or higher than the land level,
- 4- Relevance (c) Marking and lighting in accordance with the criteria specified in Section 6 of the Instruction, In case the building/structures to be built are 150 meters or higher than the land level,
- 5-Relevance (ç) Informing the General Command of Mapping following the completion of the construction activities in accordance with the provision in Additional Article 5 of the Decree-Law,

ANNEX -18
MİGEM(General Directorate of Mining Affairs) Opinion

Turkish Republic
ENERGY AND NATURAL RESOURCES MINISTRY
General Directorate of Mining Affairs

16.11.2017
URGENT

Issue : 91510499-101.27.01-E.442296

Subject : Erciyes Wind Power Plant

ENERJİSA ÜRETİM ANONİM ŞİRKETİ
İlkbahar Mah. Galip Erdem Cad. 621. Sokak No:6 ÇANKAYA / ANKARA

Reference: Your letter dated 24.10.2017 and numbered 93907

For the 65 MW Erciyes Wind Power Plant (RES) project planned to be built in the Yahyalı district of Kayseri province, Considering whether it will cause a loss of resources from the license areas within the determined area and whether it will prevent the mining activities to be carried out in the license areas, The opinion of our General Directorate on this matter has been requested.

In the examination made on the system records of our General Directorate on 15.11.2017; Since it has been determined that there is no valid license on the Erciyes WPP Project area, which is planned to be built within the Yahyalı district of Kayseri province, Our General Directorate has decided that there is no inconvenience in the realization of the project on an area of 592.4 hectares within the coordinates specified in the annex, considering the public benefits to be provided by the Erciyes WPP Project.

For this reason, Within the coordinates specified in the annex of the Erciyes WPP Project and with Sheet No: M34-b2, L34-c3, a total area of 592.4 hectares was not turned into a closed area for mining in the records of our General Directorate, and it was registered in the data processing records of our General Directorate as the Erciyes WPP special permit area with ER:3365280. processed. Mining license applications to be made in these areas will be given a period of 1 (one) year in order to obtain permission from the relevant Institutions in accordance with the 3rd paragraph of Article 7 of the Mining Law No. 3213. A license shall be issued after obtaining the necessary permits from the relevant Institutions. In addition, in case of a request to operate within the project area for existing licenses, It will be possible to carry out activities after obtaining permission from our General Directorate / EMRA.

I request your information.

Annex: Layout and coordinate list

ANNEX-19
**Opinion of Ministry of Forestry and Water Affairs, General
Directorate of Nature Conservation and National Parks and VII
District Directorate (Adana Regional Directorate of Nature
Conservation**

Turkish Republic
MINISTRY OF FORESTRY AND WATER MANAGEMENT
General Directorate of Nature Conservation and National Parks

05.01.2018
Urgent and DAILY

Issue : 84815980-611.02-6068

Subject : Erciyes Wind Power Plant (25 Turbines, Capacity=65 MWm/65 MWe) Project IDK
(Review and Evaluation Commission) Meeting

MINISTRY OF ENVIRONMENT AND URBANIZATION (General Directorate of
Environmental Impact Assessment, Permit and Inspection,
Mustafa Kemal Mah. Eskişehir Devlet Yolu (Dumlupınar Bulv.) 9.km, No:278, Çankaya)
ANKARA

Reference: Letter of the Ministry of Environment and Urbanization dated 19.12.2017 and
numbered 20473

In the EIA process of the Erciyes Wind Power Plant (25 turbines, 65 MWm/65 MWe) project planned to be established and operated in Kayseri province, Yahyalı district, Çamlıca and Yenice districts, Sorgun, Karakuyu Hill, Sırçak Mountain, Dömbere, Elmaçukuru and Dömbere Hills, It is stated that the 1st Review and Evaluation Meeting will be held on 08.01.2018, and our opinion on the project is requested.

It is understood that 60 bird species were identified as a result of the studies carried out in and around the project site. Following the commissioning of the turbines (25) planned to be built within the scope of the project, it is necessary to monitor at least 15 (fifteen) days in the spring + autumn migration periods and to investigate the possible effects of the activity on birds. During this monitoring process, semi-annual reports should be prepared regularly and the days, hours and points of the field studies to be carried out should be stated in the report. In the prepared report; Information should be given in the report about the thermal air currents in the region, the climatic data of the region and the gathering areas for bird species, the populations of the bird species using the region and the amount of change observed at the end of the monitoring, Bird species and their danger categories using the area, about for what purpose the bird species identified in the region use the region, about making a distinction between the nomadic species in the region and the species that use the region for a long time, flight heights of the species detected in the region according to the turbines, the distances of the flight corridors to the turbines. In addition, For the species that are likely to breed in the area, Monitoring studies for the species are required. In the monitoring report; Information should be given about the bio-ecology of the species, for what purpose the species use the area, population size, breeding status, breeding areas and characteristics, number of breeding pairs etc.

Regarding the monitoring reports; these should be included in the report ; Giving the observed species as predators, gliders, natives, visitors or transit nomads in groups and in numbers, including the number of transitions and individuals observed in each period in the report, revealing the risk situations, making an evaluation of the target species, based on detailed statistics and numerical analysis, The CVs of the experts involved in the preparation of the report.

The target species, especially the Little Vulture (EN) and Blue Raven (NT), need to be interpreted under separate headings. It is necessary to determine whether they use the project site and its surroundings for breeding and sheltering purposes. It is necessary to check whether there are nests and eggs in the area, and all bird species observed in the area should be given in tables separated as native species, migratory species, predators, together with the numbers of transitions and individuals and their Turkish-Latin names. It is necessary to investigate the presence of bats in the region in detail under separate headings of the target species (transition and number of individuals, for what purpose they use the area, risk levels, flight altitudes, approach distances to the turbines at horizontal level, between July and September when bat deaths are the highest). Prepared reports, Noah's Ark database and daily records must also be submitted to us electronically. Migration period monitoring studies should be carried out with the participation of technical personnel from the Provincial Branch Directorate and/or our General Directorate, and the results should be reported to our General Directorate every 6 months.

In line with the findings in the EIA Report and its annexes, the following issues must be committed in order for the project to be implemented;

- Taking spraying etc. measures for dust formation caused by construction activities during the breeding period of vertebrate species (April-July) and during vegetation, pollination and flowering periods of plants and carrying out construction activities under the control of biologists,

- Following the installation of all turbines, investigating the presence of bats in the region by monitoring at least 5 nights between July and September, when bat deaths are the highest,

- Taking the measures specified in the EIA report and its annexes, informing the employees and power plant managers, in order to prevent the species belonging to the flora and fauna components, and especially the endangered species, identified in and around the project site from being damaged during the construction period,

- Maintaining the fertile layer of the soil by stripping during the construction period and ensuring the continuity of the species by germinating the seeds in the soil by using the seeds remaining in the stripped soil after the construction works,

- The width of the road to be opened (excluding slopes, excavation and fill ends and pavement margin) should not exceed 6 meters, - Improving or restoring the areas that will require repair in the project site, afforestation with species suitable for the region.

- In addition to the above-mentioned issues, It is necessary to undertake to fulfill all the suggestions and measures specified in the prepared EIA report and its annexes, and all additional measures and commitments that will be requested during and as a result of monitoring. In line with the data to be obtained as a result of the monitoring, it is necessary to undertake that the turbines that are dangerous for birds shall be stopped during migration periods and that the dangerous turbines shall be dismantled if deemed necessary as a result of the monitoring.

- There is no harm in finalizing the EIA Process, provided that Sending the letter of undertaking (printed and digital copy) prepared for the project and approved by the applicant company, to our General Directorate and VII Regional (Adana) Directorate, which will be prepared in accordance with the above-mentioned issues, taking into account the one to be obtained from our General Directorate.

Turkish Republic
MINISTRY OF FORESTRY AND WATER MANAGEMENT
VII. Regional Directorate

29.01.2017

Issue : 60461941-499-254918
Subject : Erciyes WPP Forest Permit and Zoning Plans
Institutional Opinion

Distributed

Reference: The letter of the COMPANIES dated 12.10.2017 and numbered 114296.

In the relevant article; Regarding the Wind Power Plant to be established by Enerjisa Enerji Üretim A.Ş. company within the borders of Kayseri Province, Yahyalı District, Yenice and Çamlıca Neighborhood; The Opinion is requested from our Regional Directorate in order to obtain the necessary approvals, licenses and similar permits, to approve the zoning plan for the facility area, to carry out land acquisition works and to obtain a 2-year forest permit for the parts remaining in the forest area (including Wind Measurement Poles and roads).

In the appendix of our article, in the evaluation of the commission created by our Regional Director; Opinion given by our General Directorate: It has been observed that there are no protected areas and wetlands within the requested area within the scope of Land Hunting Law No. 4915, National Parks Law No. 2873, and Wetlands Protection Regulation published in 04/04/2014 dated and 28962 numbered in O.G. However; It has been observed that Aladaglar Wildlife Development Area, which is one of our protected areas, is located at a distance of approximately 4000 meters to the west of the TI Turbine and approximately 3000 meters away from the nearest place where the turbines are located, among the Erciyes Wind Power Plant areas. In the examination of the EDR(Ecosystem Assessment Report) report; It has been determined that it is not close to places such as the Bosphorus, Eastern Black Sea Region and Hatay region, which are the "Main Migration Route" routes that birds use intensively. It has been determined that it is located on the "Secondary Migration Road" located all over Turkey. It was observed that 60 bird species were encountered in and around the WPP site, 43 species from Strictly Protected Species, 13 species from Protected Species, and 4 species not included in the annexes of the Bem Convention. Within the scope of the IUCN criteria of these species, It has been determined that the Blue Raven (*Coracias garrulus*) is in the NT (near endangered) category, the Little Vulture (*Neophron percnopterus*) is in the EN (endangered) category, and the remaining 58 species are in the LC (low level of concern) category. Although there are areas such as Sultan Marshes, Seyfe Lake, Palas Lake and Hürmetçi Reeds, which are close to the project site and have intense bird potential, it is stated that there are low-density migratory movements in the project area, that is, a small number of species and not many individuals belonging to the species. It has been stated that the bird species that use Sultan Reeds for wintering and shelter are coming to the inner regions, and WPP activity may have a negative impact on the birds coming to the reeds and other regions due to air movements. It has been stated that the turbine area is poor in terms of vegetation, and that apart from cosmopolitan species, rare species such as Red Hawk (*Buteo ruimius*) and Kestrel (*Falco tinnunculus*) are encountered in the area, which come for feeding purposes. In the bat impression, it was reported that individuals belonging to 6 different bat species from 2 different bat families were encountered in the project site and its immediate surroundings. It

has been reported that these 6 taxa are not included in the CITES list, and according to IUCN, 3 of them are LC (Low Threatened) and the other three are not fully diagnosed.

Regarding these matters: Provided that the following matters are fulfilled;

1- With regular and detailed monitoring studies covering the collision risks that may occur among migratory forms and for mammalian species (especially bats), starting from the commissioning of the turbines, including the spring, autumn and even partially winter periods, revealing the species that use the region during migration periods, whether they pass over the site, if they are affected by the existing turbines, and if so, the way and degree of being affected; in addition, within the framework of absolute observation whether the said migrations are related to the Sultan Marshes, Taking additional measures for the operation of turbines according to the results of the monitoring to be carried out in the field of activity for a period of 2 years and +2 by us in total 4 years, as stated in the Ecosystem Assessment Report, (it may be necessary to stop at certain times of the year and completely disassemble the turbines if necessary)

2. In order to eliminate or minimize the risks that may arise from turbines, in addition to painting the turbines white so that they can be easily seen from afar for birds, 1/3 of the propeller blades are painted in an eye-catching orange or yellow color so that they can be noticed from afar in order to facilitate visibility in foggy weather,

3. Regarding the project; Notarized commitment that additional measures and recommendations shall be fulfilled during and as a result of monitoring, that turbines that pose a danger to birds and mammals (especially bat species) shall be stopped during migration periods, that high-risk turbines shall be dismantled in case of high risk of danger,

4- The width of the roads to be opened within the scope of the project should not exceed 6 meters, taking into account the issues in the Landscape Repair Plan to be made on the roadsides, taking into account the commitment to make afforestation with species suitable for the region, sending the notarized undertaking prepared for the project to our VII Regional Directorate,

5- Submitting the wildlife monitoring program (especially for bird and mammal species) to our VII Regional Directorate,

6- Monitoring the wildlife in the region for a period of 4 (four) years, in line with the monitoring program offered, by at least one expert biologist (minimum master's degree) who has been/is engaged in ornithological studies within the operational phase, starting with the construction phase, in order to monitor the project adaptation, and Submission of monitoring reports to our VII Regional Directorate by entering the Noah's Ark database every 6 months,

It has been found appropriate to carry out the activity.

ANNEX -20
Opinion of DSI 12th Regional Directorate

Turkish Republic
MINISTRY OF FORESTRY AND WATER MANAGEMENT
General Directorate of State Hydraulic Works 12th Regional Directorate

13.11.2017

Issue : 81675414-045.99-785687

Subject : Other (Comments)

TO ENERJİSA ENERJİ ÜRETİM A.Ş.

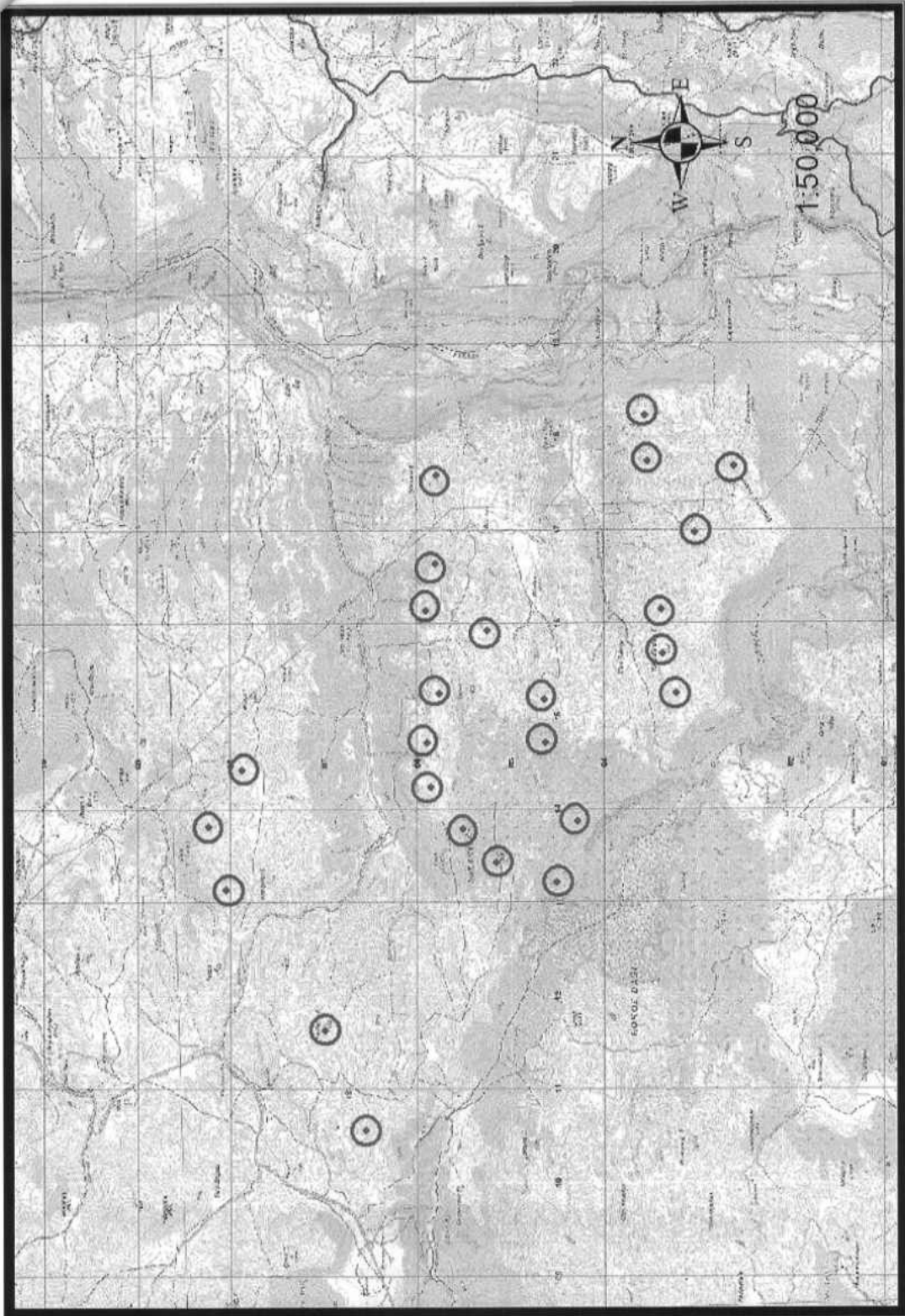
(İlkbahar Mah.Galip Erdem Cad. 621 Sok. No:6 Çankaya/ANKARA)

Reference : The letter dated 03.11.2017 and undated numbered writing

In the article of reference; It has been stated that Enerjisa Enerji Üretim A.Ş. wants to establish "Erciyes Wind Power Plant" with an installed power of 65 MW within the borders of Yahyalı district, Çamlıca and Yenice Districts of Kayseri province. We are asked for our opinion of the institution that will form the basis for the zoning plans and whether there is a project within our administration in the said areas and whether there is any objection to the construction of a Wind Power Plant.

Necessary investigations have been made on the subject. The areas mentioned in the attached map are not included in any irrigation project. However, The locations of the turbines to be installed should not be built on the beds of various streams and dry streams, excavation and material should not be spilled on the stream beds, and natural stream beds should be protected during construction and operation.

I request your information.



ANNEX -21
Minutes of Public Participation Meeting

Turkish Republic
KAYSERİ GOVERNORSHIP
Provincial Directorate of Environment and Urbanization

ERCIYES WIND POWER PLANT (25 UNITS TURBINES, 65 MWM/65 MWE) PROJECT
PUBLIC PARTICIPATION MEETING EXHIBITOR LIST

Çamlıca Neighborhood Village Chamber Yahyalı / Kayseri

Date: 27.10.2017

Time: 14.00

ADI-SOYADI	KURUMU	TELEFON	İMZA
Kamil Sipahi	Vatandaş	-	
Ali Liza Erdemir	"	-	
Bayram Ali Dincer	Vatandaş	-	
Veli Eralp	Vatandaş	-	
Salih Dincer	Vatandaş	-	
Şaban Ceyhan	Vatandaş	-	
Abdullah Kaya	Vatandaş	-	
Ekrem ÖZDES	Aktif Güre	0532.272.17.11	
Hülya ÖZDES	Aktif Güre	0506 258 0358	
Mahmut GÜVEL	Sahipsali Orman işletme şefi	0506 7756110	

ERCIYES WIND POWER PLANT (25 UNITS TURBINES, 65 MWM/65 MWE) PROJECT
EIA REPORT PUBLIC PARTICIPATION MEETING MINUTES

MEETING DATE: 27.10.2017

MEETING TIME: 14.00

LOCATION: Çamlıca District Village Chamber Yahyalı/KAYSERİ

About the Erciyes Wind Power Plant (25 Turbines, 65 Mwm/65 Mwe) project planned to be built by Enerjisa Enerji Üretim A.Ş. in Kayseri Province, Yahyalı district, Çamlıca District and Yenice District, Sorgun, Karakuyu Hill, Sırçak Mountain, Dümbere, Elmaçukuru and Dümbere Hills, within the scope of the evaluation of the EIA Application File prepared and submitted to our Ministry, in accordance with Article 9 of the Environmental Impact Assessment (EIA) Regulation, which was published in the Official Gazette dated 25 November 2014 and numbered 29186 within the EIA Process, in order to inform the people of the region where the activity is planned and to get their opinions and suggestions, a public participation meeting was held on 27.10.2017 at 14.00 in the Çamlıca District Village Chamber under the Presidency of the Deputy Director of the Directorate of Environmental and Urbanization, EIA and Environmental Permits Branch Ahmet KOLKIRAN.

Deputy Director of the EIA and Environmental Permits Branch Ahmet KOLKIRAN, who chaired the meeting, in his opening speech;

"Dear guests, I respectfully greet you all. In accordance with Article 9 of the Environmental Impact Assessment (EIA) Regulation, which was prepared by our Ministry based on Article 10 of the Environmental Law No. 2872 and entered into force by being published in the Official Gazette dated 25 November 2014 and numbered 29186; We have come together to hold the Public Participation Meeting to inform you as the people of the region about the Erciyes Wind Power Plant (25 Turbines, 65 Mwm/65 Mwe) project planned to be built by Enerjisa Enerji Üretim A.Ş., and to get your opinions and suggestions. Now, I leave the floor to the representative of Aktif Çevre Müh. Ve Dan. Ltd. Şti, who carries out the procedures on behalf of Enerjisa Enerji Üretim A.ş. and also carries out the procedure applied before the EIA Report."

Branch Manager Ahmet Kolkıran;

Does anyone want to ask a question about the project or want to contribute? it was asked,

Mesut Dinçer asked when the construction phase of the project will start.

İbrahim ÇAKIR asked, "How will the beekeeping activity in the village be affected?"

He said, "If there are no other questions, I'm ending the meeting."

ANNEX -22
Emergency Response Plan

EMERGENCY RESPONSE PLAN

The Emergency Response Plan has been created in order to minimize the loss of life and property in the field in extraordinary situations such as fire, earthquake, flood etc.

The first stage of emergency planning is to determine the events that may occur in the activity area. These determinations are the definitions of accidents and events that may lead to an emergency. With these determinations, it is determined what kind of effects the accidents and incidents will have on the environment, people, facility and equipment.

The fire extinguishers required during the fire shall be hung in an easily accessible place in the field. The Emergency Action Plan, which was prepared after the facility becomes operational, shall be complied with.

A. Purpose

It has been prepared in order to minimize the damage in case of emergency that may occur in the sections that have a major accident risk that will affect the workers, the environment and the society.

B. Scope

Prepared for Erciyes WPP Project

C. Target

To minimize the damage that may occur in emergency situations and to use the facilities of the Plant.

D. Assumptions

It has been accepted that an accident that may occur may disrupt the ecological balance, that flammable and combustible hazardous materials may cause loss of life and property in case of a possible accident, and that assistance can be provided by making use of provincial and district facilities.

E. Communication

Communication on site, shall be provided from existing telephone, radio and fax . Facility management; It shall communicate directly with the gendarmerie and security units, and also communication between the Municipality and the District Governorship will be made at any time.

F. Application

- It is to ensure that the Facility's Emergency Plan is Prepared, tested and revised as necessary.

- It is to establish the organization, to determine the responsible persons and to carry out the coordination so that the intervention can be successful in emergency situations.
- All necessary fire system tools and equipment shall be available in the facility to ensure fire safety.
- It is to install an alarm system that can be heard from all over the facility so that the personnel can receive instant notification in case of emergencies.
- It is to ensure that the necessary manpower and other facilities are available for the emergency response.
- It is to make the most appropriate choice by following the developments in technologies that can be used for emergency preparedness and response.
- It is to work to increase the awareness of facility personnel during the implementation of emergency plans.
- It is to cooperate with the related parties in order to provide the necessary personnel, equipment and other facilities, when necessary, with neighboring facilities and factories, security units and district facilities.

G. Announcement and Communication Systems:

- In case of an accident, the Facility Manager responsible for the Facility notifies the nearest local security units and the local authority.
- In emergencies, the head of the response commission or one of the vice presidents is informed.
- It also informs the General Directorate and the relevant Directorate to which the terminal is affiliated in case of emergency.
- In such accidents, vehicle phone and other communication tools are also used, since communication is very important considering the areas that may be affected by the accident.
- It is announced by the District Governor's Office, the Municipality and the Police Forces by telephone and other communication tools, within the knowledge of the chairman of the emergency response commission, his assistants and members.

Emergency Response Resources

- Lists identifying the identities, titles and telephone numbers of the personnel involved in the emergency plan are kept at appropriate places.

- In addition, a list of units indicating important telephone numbers is also kept in the security building.
- Personal protective materials of the personnel are provided and kept in the facility.
- First aid and other emergency medical supplies shall be available at the facility in sufficient quantities at all times.
- In case of emergency, fire materials and equipment shall be widely available as a source of response to fires.

These are:

- a. Adequate firefighting equipment
- b. Fire extinguishing equipment will be easy to use, placed in visible and easily accessible places, there will be no obstacles in front of them,
- c. Fire extinguishers will be marked in accordance with the Safety and Health Signs Regulation, signs shall be placed in appropriate places and shall be permanent.

Actions to be Taken After the Emergency:

When the emergency is over, the head of the emergency response commission gives the permission to enter the region.

When the emergency is over, it is notified by telephone, radio and other means of communication.

For the monitoring, inspection and necessary records of the damaged area, and where the accident occurred, the facility manager and the representatives of the following institutions are informed:

- Provincial Directorate of Environment and Urbanization
- Provincial Health Directorate
- Relevant Mayor's Office

General Rules to be Applied in Emergency Plans

- In case of emergency, the most authorized person in the facility at that moment is the Emergency Supervisor.
- The Facility Manager becomes the Emergency Supervisor from the moment he arrives at the scene of the incident or accident.
- In the absence of the Facility Manager, this task is carried out by the Assistant Facility Manager.

- The Emergency Supervisor, one of the plans to be implemented in emergencies, becomes the Emergency Operations Supervisor. In the absence of the operational supervisor, this task is carried out by the Assistant Facility Manager.
- The Operations Supervisor is responsible for the implementation of the operation instructions given by the Emergency Supervisor and the dispatch and administration of the teams.
- The team to be formed to respond to the Emergency is determined among the facility personnel as much as possible. Emergency plans include persons as names. Teams to be formed for emergencies can be listed as.:
 - First Aid Team,
 - Fire Fighting Team,
 - Communication Team,
- Depending on the nature of the emergency, the Emergency Supervisor may form teams for different purposes that are not included in the emergency plans. He pays attention to the selection of team members from among those who are educated on the subject.
- Emergencies are announced with electrical or mechanical alarm systems. To be used as a headquarters or crisis center in emergencies, an Emergency Control Center is established in a place with minimum risk around the main gate of the facility. Equipment to be kept in this center are:
 1. Internal and external telephones with sufficient capacity,
 2. Mobile phones belonging to different GSM operators,
 3. Radio device,
 4. Personal protective and rescue equipment,
 5. Plans and projects that define the facility and the project,
 6. Telephone and address lists of the relevant persons.
- A suitable area on the route that is large enough to allow the gathering of all personnel and can be easily reached by people is determined as a Gathering Place to be used in case of emergency.
- The meeting place is indicated with special signs and is always accessible, organized and kept under control.
- In emergencies, everyone in the facility goes to the "Assembly Place" to act in accordance with the instructions from the Emergency Supervisor.

- In case of emergency, the communication works are carried out by the Security Officers to call the necessary places by phone or to obtain information.
- The First Aid Team is composed of people who have received first aid training under the chairmanship of the Workplace Physician.
- For lifeguard services, agreements with organizations with basic emergency response facilities should be preferred.
- The Fire Fighting Team consists of people who have received sufficient theoretical and practical training in fire fighting.

Emergency Action Plan to be Implemented in the Event of Fire

For fires that may occur within the project site, Prevention of fire shall be ensured by taking precautionary measures. In the dry seasons; All necessary measures shall be taken to prevent fires and fires outside the facility area, especially in forest areas. In case of a possible fire, fire extinguishing tools and equipment shall be available within the project area.

- The personnel in the facility shall immediately take action to form the teams included in the Fire Fighting Plan.

- All team members shall have extensive knowledge of fire risks and fire equipment.

- In the event of an emergency, a fire investigation will be conducted within the responsibility areas under the control of the team leader by the team members included in the Fire Fighting Plan.

- All activities in the facility shall be stopped, the energy shall be cut off, if it is running, the generator shall be stopped.

- Local fire brigade will be informed according to the possibility of fire growth. In addition, neighboring organizations and other public and private organizations involved in the emergency plans shall be notified.

- Those who are on the emergency plan and on the list of people to call at the Central Office shall be informed of the event.

- The fire team will respond to the incident. The form of intervention should have been explained and reinforced during previous trainings.

- Meanwhile, the support teams come to the task.

- The Facility Manager coordinates all inbound and outbound operations and all incoming assistance.

- After the fire is brought under control and extinguished, the Facility Manager prepares a report summarizing the incident in all details to be given to the relevant units in the Head Office.

- It is kept in the Emergency Control Center of the companies providing this service in and around the facility in order to prepare for the intense labor requirement after the fire.

Emergency Action Plan to be Implemented in the Time of an Earthquake

Earthquake is one of the biggest natural disasters. It is the first and most important precaution not to be alarmed when it is felt. Then the following measures are taken and implemented immediately.

- Personnel working in closed areas go out of the nearest and safest exit, go to the Gathering Place if possible, if not, choose a safe place in the open area and wait for the instructions of the Emergency Supervisor for possible interventions.

- Information about the center of the earthquake and its intensity are obtained from various sources. Official Resources are contacted for information about possible aftershocks.

- If the general situation is deemed safe, activities are started gradually.

Emergency Action Plan to be Implemented in Floods

Floods are usually not a sudden natural event, they develop over a period of time. For this reason, emergency plans to be implemented in such cases proceed within a certain plan.

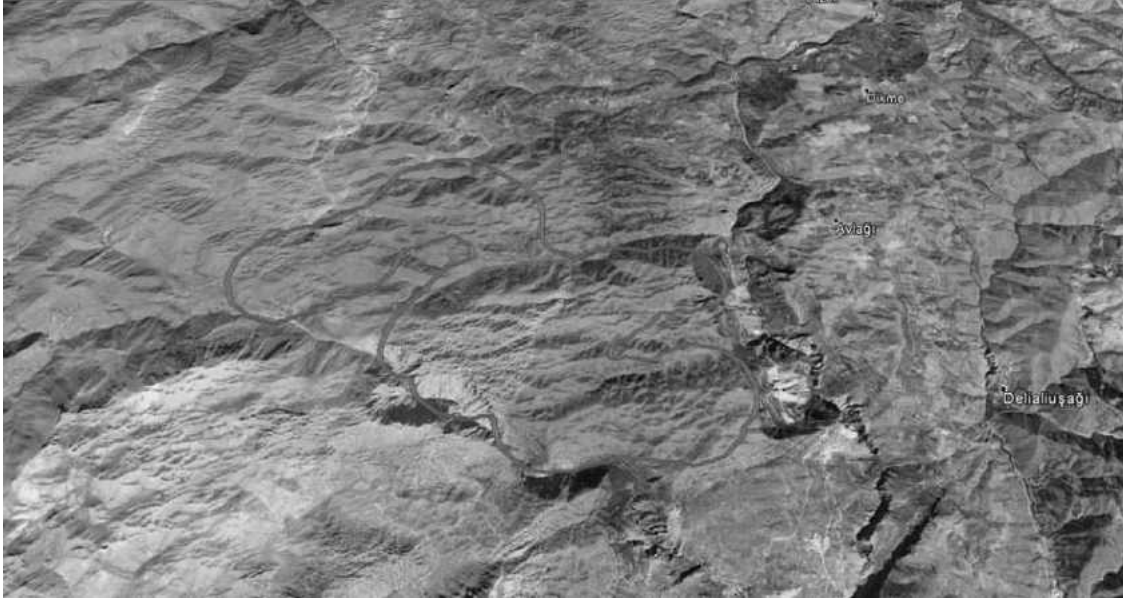
- Visual inspections shall be made for erosion, leakage and flood risks.
- If there is any significant damage, the relevant authorities shall be notified immediately.
- If strong winds are expected, observations shall be increased and changes shall be reported.
- In cases where strong winds are not expected; If the first inspection has been made at night, it shall be checked again during the day.
- If it is safe, facility damage control begins.
- When the water level stops increasing or starts to decrease, a program is determined in terms of what shall be done after the flood.

Emergency Action Plan to be Implemented in Case of Landslide, Erosion

- If landslides and erosion etc. are detected after the routine checks, it is checked whether there is any indication that the facility shall be demolished.
- If symptoms are found, the extent of the damage is calculated and if the water cannot be controlled, it is reported to the responsible personnel.
- If no symptoms are found, all possible problems are recorded.
- The relevant authorities are informed without delay.
- Events in all processes are recorded.
- If security is ensured, damage control is performed.

ANNEX -23
Landscape Rehabilitation Plan Report

**ERCIYES WPP PROJECT
LANDSCAPE REHABILITATION PLAN REPORT**



Cem ATİK
(Landscape Master Architect)
Ankara, 2017

CONTENTS

Objective.....	1
Scope	1
1. LANDSCAPE FUNCTION ANALYSIS	
2 1.1 Potential Erosion Risk Analysis	2
1.2 Habitat Function Analysis	12
1.3 Visual Function Analysis	19
2. EVALUATION AND DETERMINATION OF LANDSCAPE REHABILITATION TARGETS	23
2.1 Erciyes WPP Project Landscape Rehabilitation Plan Environmental Impacts and Precautions	23
2.2 Erciyes WPP Project Landscape Rehabilitation Plan Area Landscape Rehabilitation Intervention Forms	26
3. BIOLOGICAL/TECHNICAL REHABILITATION AND APPLICATION	31
4. MONITORING	41
4.1 Monitoring and Unexpected Situations	43
ANNEX -1 LANDSCAPE REHABILITATION PLAN PROCEDURES.....	45
ANNEX-2 PROJECT STRUCTURES COORDINATES	47
ANNEX -3: LANDSCAPE REHABILITATION PROCESS BUSINESS PLAN AND WORK TERMINAL PLAN	60
FIGURES	
Figure 1.1: ICONA Method Flow Chart	2
Figure 1.2: Wearability	4
Figure 1.3: Level of Soil Conservation	5
Figure 1.4: ICONA Land Cover (Current Land Condition)	7
Figure 1.5: ICONA Slope Classes	8
Figure 1.6: Geological Structure	9
Figure 1.7: Erosion Function Analysis of Landscape; ICONA Method Erosion Severity Classes	11

Figure 1.8: CORINE Land Cover Classes.....	13
Figure 1.9: Patch Analysis	17
Figure 1.10: Habitat Function18
Figure 1.11: Visual Function of Landscape; Highway	20
Figure 1.12: Visual Function of Landscape; Switchyard	21
Figure 1.14: Visual Function of Landscape; Turbine	22
Figure 2.1: Sensitive Areas in Terms of Landscape Functions	27
Figure 2.2: Landscape Rehabilitation Plan	29

TABLES

Table 1. 1: Soil Conservation Level and Erodability Registration Chart for ICONA Erosion Levels.....	3
Table 1. 2: ICONA Erosion Severity Matrix	3
Table 1. 3: Spatial Metrics of Patch Classes	14
Table 1. 4: Patch Classes Shape Metrics	15
Table 1. 5: Border Metrics of Patch Classes	15
Table 1. 6: Patch Classes Core Area Metrics	15
Table 2. 1: Erciyes Project Landscape Rehabilitation Plan Environmental Impacts and Protection Measures	24

ENVIRONMENTAL IMPACTS OF THE PROJECT DURING THE CONSTRUCTION AND OPERATION PHASE AND MEASURES TO BE TAKEN

In this study, the negative effects that the Erciyes WPP Project Landscape Rehabilitation Plan may have on the natural and cultural environment during the construction and operation phases have been determined and the issues to be considered, measures to be taken and protection actions have been tried to be defined in order to reduce the effects.

Erciyes WPP Project Landscape Rehabilitation Plan study consists of four parts. In the first part, landscape water function, potential erosion risk analysis, habitat function analysis, habitat function analysis and visual function analysis have been carried out. In the second part, the general evaluation of the analyzes and, accordingly, the landscape restoration targets have been determined. In the third chapter, biological and technical Rehabilitation issues and application related issues have been explained depending on the Rehabilitation objectives of the project. In the fourth and last section, actions for management, control and monitoring are explained in the process following the Rehabilitation of the project site.

Objective

The main purpose of the Erciyes WPP Project Landscape Rehabilitation Plan is to foresee the destruction and damage that may occur in the natural environment during the construction and operation phase of the project and to ensure that the necessary measures are taken.

With this study, during the construction and operation phase of the project, It is aimed to rehabilitate the destroyed/can be destroyed areas and to protect the habitat, plant and animal existence that may be lost in the area with tools such as biorestitution, creation of suitable habitat areas, feeding areas and to try to solve the possible effects to be created within the project area, by evaluating the destructions that may occur on the morphological, hydrological, soil structure and vegetation of the land and the habitats that will be affected as a result, the existence of plants and animals, the erosion risk that may increase.

Scope

In line with the purpose explained above, possible damages that may occur in the natural and cultural structure of the area during the construction, and the effects that may occur during the operation of the project are foreseen. Measures that can be taken in line with these predictions have been defined.

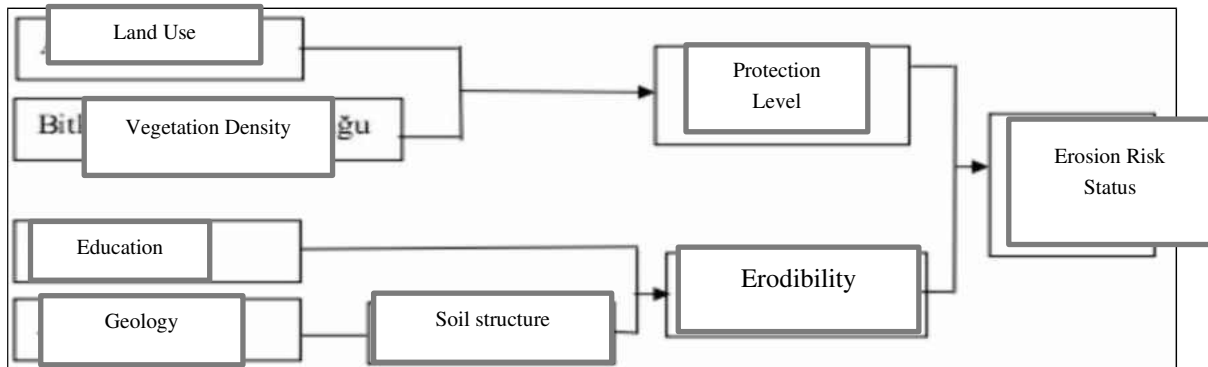
1. LANDSCAPE FUNCTION ANALYSIS

1.1 Potential Erosion Risk Analysis

With potential erosion risk analysis, by modeling in the geographical information systems environment, sensitive ecological areas have been determined in terms of the erosion function of the landscape in question. In this context, the MAPA/ICONA method has been used.

The MAPA/ICONA (Institut National pour l'Yöntem la Conservation de la Nature) method was developed by the Spanish General Directorate for Conservation of Natural Resources (DGCONA) and is an erosion risk determination method currently in use. After the ICONA method was developed, it was integrated with UNEP (United Nations Environment Program) standards in order to achieve the standard in erosion level values and produced maps (Mapa/Icona, 1991; Şahin and Kurum, 2002; Dilek et al., 2008, Uzun et al., 2012). In the ICONA method, the erosion risk status of the region can be determined for a basin or region by evaluating the land use, vegetation density, topographic (slope) condition and the geological characteristics of the region. By using these four main variables related to region characteristics; Maps showing soil protection level, topographic structure (slope) and erosiveness information from geological features can be produced from land use and vegetation density information. In the last part of the method, these two maps are evaluated together, and the erosion risk situation shown in the flow diagram in Figure 1.1 is obtained. In the ICONA method, the relations and evaluations between the variables are made with the help of decision matrices (Doğan et al., 2000, Bayramin et al., 2003).

Figure 1.1: ICONA Method Flow Chart



Erosion risk levels are reached by operating the values of the protection level and erosiveness factors within the scope of the ICONA method as given in the table below.

Table 1. 1: Soil Conservation Level and Erodability Registration Chart for ICONA Erosion Levels

Erodibility	Soil Protection Level				
	W	High	Medium	D	VL
VL	VL	VL	VL	Low	Low
Low	VL	VL	Low	M	L
M	VL	Low	M	L	L
L	D	M	M	W	W
W	D	M	Y	W	W

VL: Very Low, L: Low, M: Medium, H: High, W: Very High

Table 1. 2: ICONA Erosion Severity Matrix

ICONA EROSION VIOLENCE MATRIX		Soil Wearability				
		Very Low,	Low	Orta	High	Very High
Soil Protecti on level	Very High	Very Low,	Very Low,	Very Low,	Low	Low
	High	Very Low,	Very Low,	Low	Medium	High
	Medium	Very Low,	Low	Medium	High	High
	Low	Low	Medium	Medium	Very High	Very High
	Very Low	Low	Medium	<i>Yüksek</i>	Very High	Very High

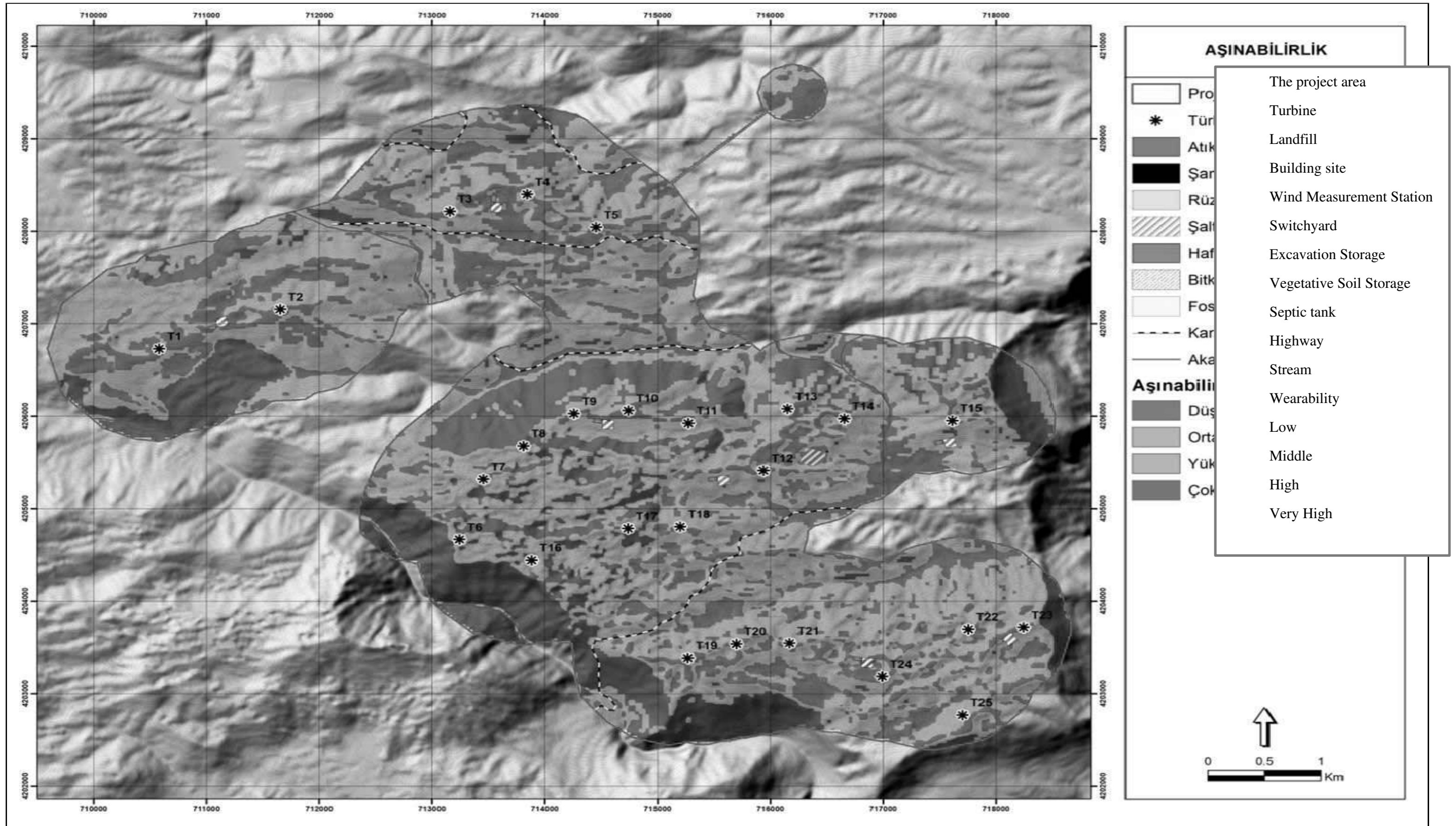


Figure 1.2: Wearability

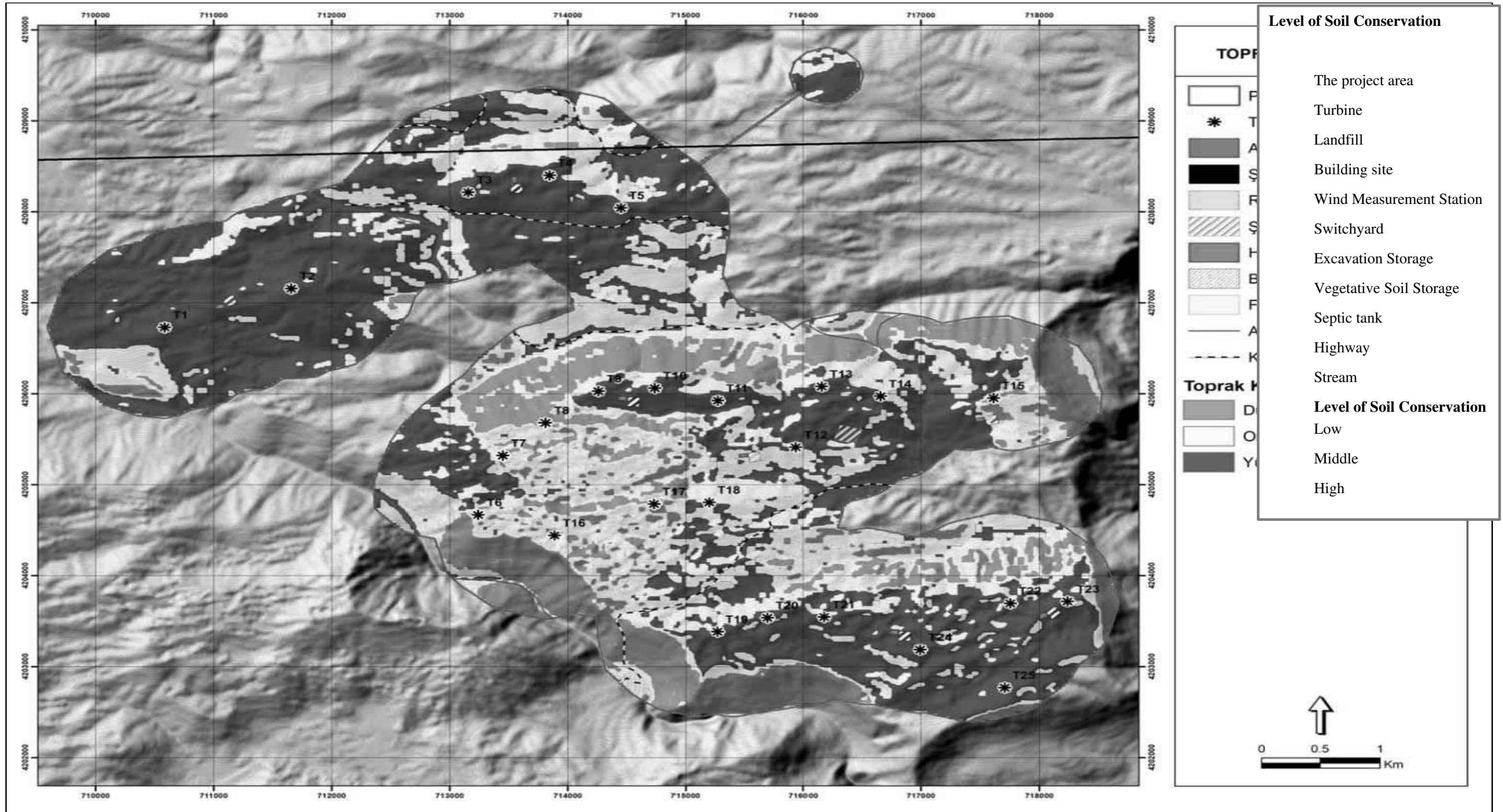


Figure 1.3: Level of Soil Conservation

Within the scope of the work area, The factors, resources and preparation processes needed within the scope of the applied ICONA method have been prepared and modeled as follows and based on sources such as Mapa/Icona (1991), Şahin ve Kurum (2002), Bayramin et al. (2003), Dilek et al. (2008) ve Uzun ve ark. (2012).

|| Land use; It was determined by regrouping the CORINE 2006 classes belonging to the study area into the main classes defined by ICONA with the reclass method in the GIS environment (Figure 1.4).

|| Slope; Creating Digital Elevation Model (DEM) in GIS environment from digitized contour data based on 1/25.000 scale topographic maps of the study area and by applying the slope analysis from the height analyzes included in the surface analyzes afterwards, the slope image has been determined as a percent unit. The slope image produced has been reclassified and regrouped using the slope threshold values determined within the scope of the ICONA method (Figure 1.5).

|| Geology; It has been obtained by rearranging the existing geological structure classes in the area into graded groups determined by the ICONA method with the reclass method in the GIS environment.

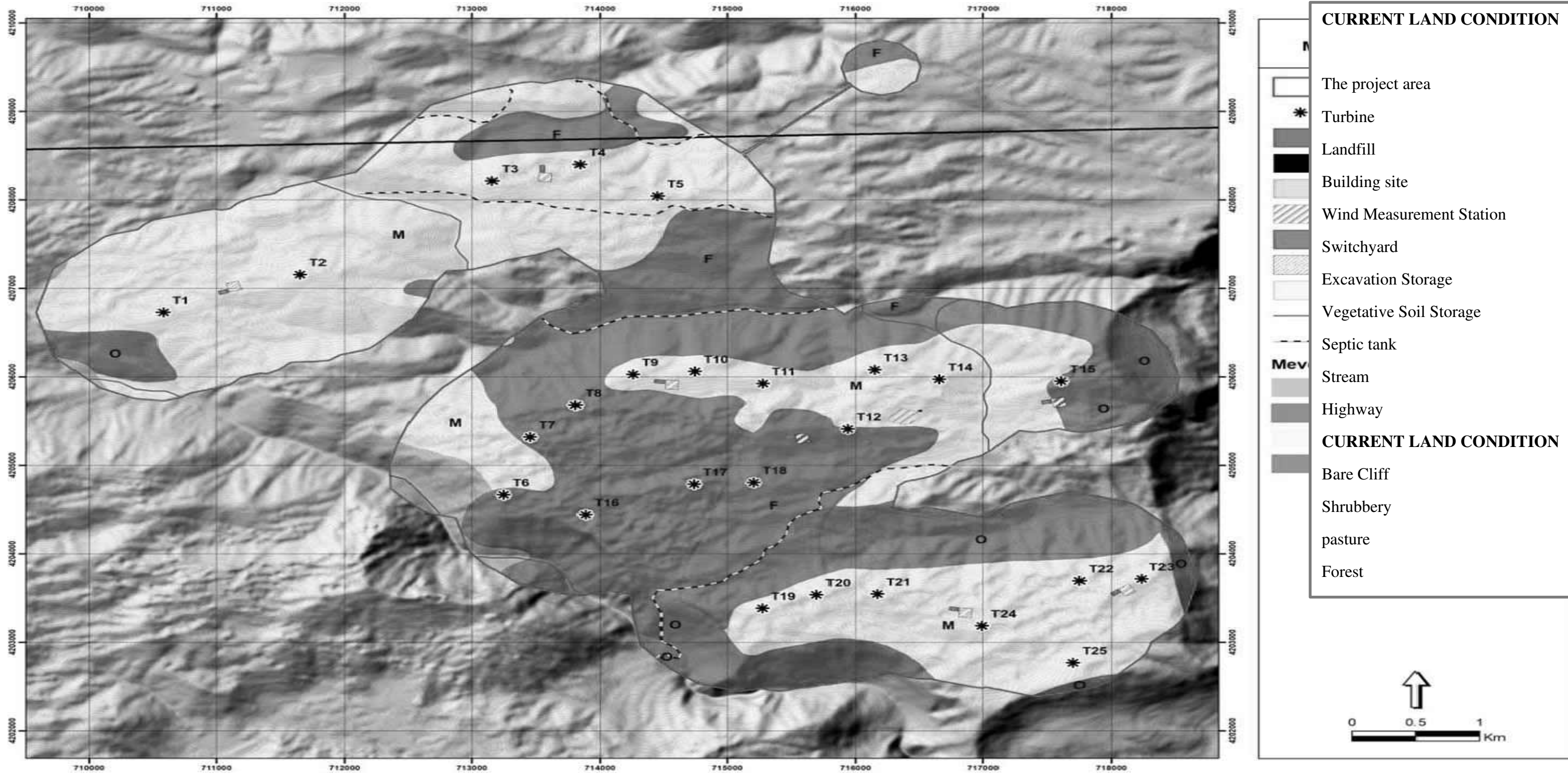


Figure 1.4: ICONA Land Cover (

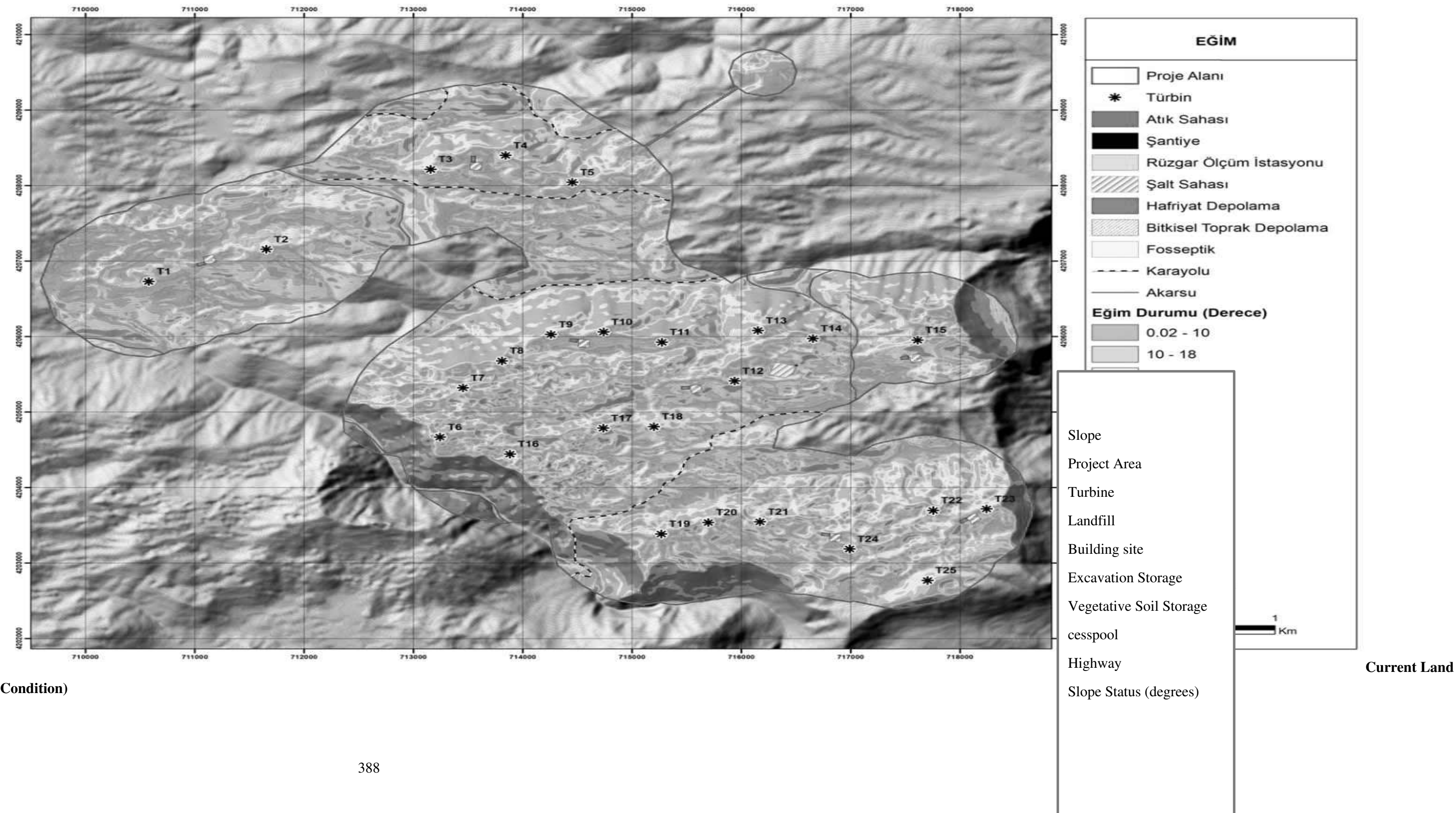
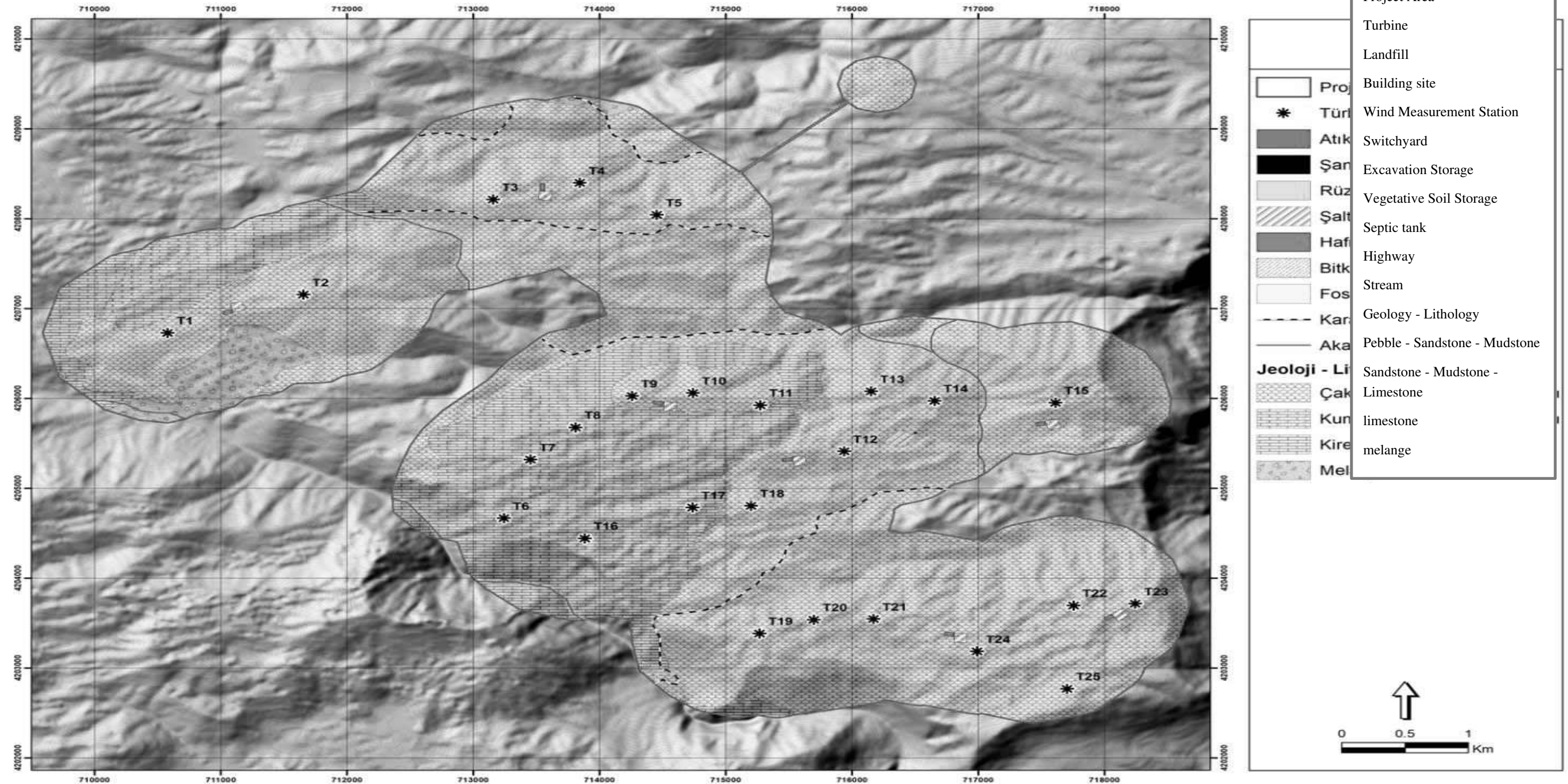


Figure 1.5: ICONA Slope Classes

Figure 1.6: Geological Structure



According to Bayramin et al. (2003) using the ICONA protection level matrix, taking into account all possible matches of land use classes and vegetation density classes, protection levels of the area have been determined. Similarly, for CORINE, the eroding factor, which gives the probability of the soil being moved, It is grouped into ten severity classes, such as protection level, by weighting the matching of slope and geology classes.

The two layers formed by the soil protection and erosiveness levels produced by the overlay analysis in the GIS environment were also overlapped by the overlay analysis, taking into account the ICONA erosion severity matrix. The final ICONA erosion severity levels have been modeled (Fig. 1.7).

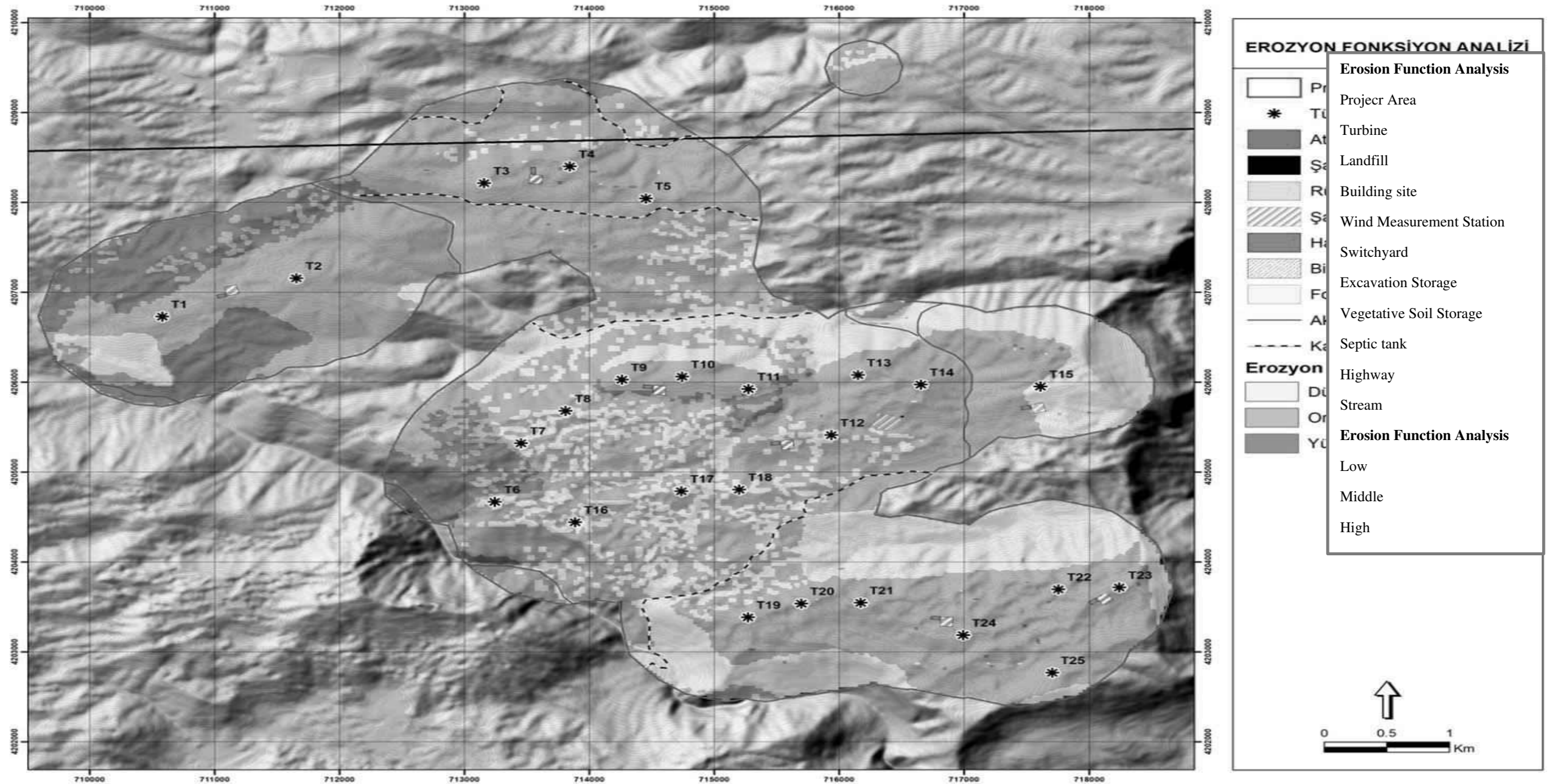


Figure 1.7: Erosion Function Analysis of Landscape; ICONA Method Erosion Severity Classes

As a result of the ICONA erosion modeling study carried out within the scope of landscape erosion function analysis, there are areas with low, medium and high erosion risk within the project area. Areas with low erosion risk are in the east, south, northwest and inner parts of the project area, areas with medium erosion risk are in the south, southeast, east, west, northwest, north and inner parts of the project area, and areas with high erosion risk are in the west of the project area. and northwestern parts (Figure 1.7).

Erosion will be stopped by establishing vegetation in areas with high erosion risk or by improving the existing vegetation. For this, the existing vegetation shall be preserved as much as possible. Improvement and development of the existing subsoil and topsoil vegetation and planting works for erosion control purposes shall be carried out on the slopes of natural drainage lines and stream beds. Afforestation, cover development, grazing, bringing plant species suitable for the region to the stream beds that do not carry sediment are some of the precautions to be taken for such areas.

In areas with medium erosion risk, vegetation improvement works will be carried out by protecting and improving (healing) the existing vegetation for erosion prevention purposes and ensuring its regular maintenance.

1.2 Habitat Function Analysis

Within the scope of the habitat function of the project site, the structure of the spots (homogeneous landscape units) that contain different habitats belonging to the fauna in the area were questioned quantitatively and qualitatively in order to reflect the habitat quality. After these interrogations, By evaluating the emerging Patch conditions, the interaction and relations with each other have been determined and the habitat conditions have been revealed. In this context, landscape functions have been determined using landscape metrics.

Determining the landscape structure is a basic data for understanding the processes and change in the landscape such as the habitat function. Landscape metrics emerging for this purpose has been defined as equations that numerically express the qualitative and spatial characteristics of landscape structural elements with the help of remote sensing and GIS techniques, thus revealing the structure, spatial relations and heterogeneity of the landscape, thus its functions (functioning) and change. From this project, landscape metrics, also called Patch analysis, which include area, shape, edge and core area metrics at class level, have been produced and evaluated for habitat function. In this context, Patch analyzes were carried out by customizing it within the characteristics of the field, based on the studies carried out by Uzun (2003) and Uzun et al. (2012). CORINE 2006 land cover/use data was obtained and used as the baseline data within the scope of the Patch analysis.

According to the third level of the CORINE 2006 classification, there are 5 different classes in the field. These classes are: Natural Grasslands, Sparse Vegetation Areas, Vegetation Exchange Areas, Broad Leaf Forests and Bare Rocks (Figure 1.8).

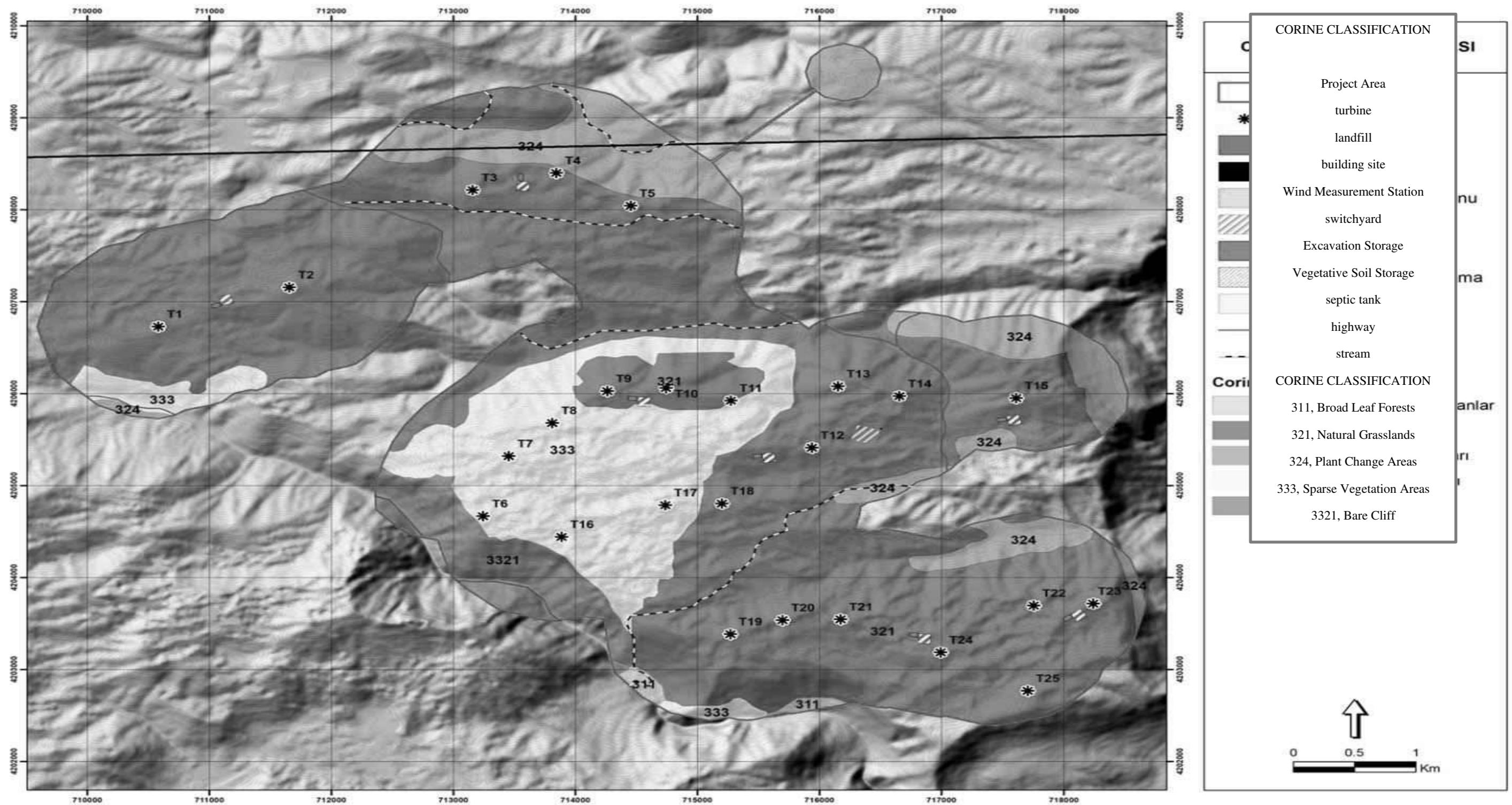


Figure 1.8: CORINE Land Cover Classes

When these land cover classes are examined in terms of natural animal presence, it is appropriate to group the habitat spots as shrub vegetation (ÇBÖ).

Evaluation of the Patch analysis results was made in line with the methods included in the studies carried out by Uzun (2003) and Uzun et al. (2012). Accordingly, increasing the size of the Patch generally increases the habitat value of the landscape. The decrease in the size of the Patch shows a result in the direction of the decrease in the habitat value of the landscape. In this context, the increase in the number of large Patch is seen as a gain and the increase in the number of small Patch can be considered as a loss. The increase in the number of Patch brings with it fragmentation. In other words, Over time, the increase in the number of Patch shall decrease the habitat value of the landscape, and the decrease in the number of Patch shall increase the habitat value. To be considered in this context, Patch area metrics have been calculated for the project site. Based on the fact that among the calculated metrics, especially the number of spots and the value of the average spot size increase, their value in terms of habitat function increases, the spot classes are graded by considering the metrics in Table 1.3.

Table 1. 3: Patch Classes Areal Metrics

Patch Classes	NumP	MPS	MedPS	PSCov	PSSD	CA (ha)	Habitat Function
Tree Vegetation	9	28,38	8,19	157,18	44,61	369	3
Shrub Vegetation	3	175,80	43,83	118,87	208,97	527	4
Herbaceous Vegetation	4	443,23	47,16	185,58	822,59	2.216	5

CA: Class Area; NumP: Number of Patch; MPS: Average Patch Size; MedPS: Center Patch Size; PSCov: Patch Size Coefficient of Variation; PSSD: Patch Size Standard Deviation.

Patch shapes are ecologically important in terms of affecting movements and flows in the landscape. The ecological functions of the Patch shapes are grouped into four groups as linear, curved, inner and environmental. Three form principles have been developed for animals and plants. Compact forms are effective in conserving resources and protect internal resources against harmful effects in the environment. Curved forms are effective in increasing interactions with the environment. In addition to an active interaction with the environment, "network or labyrinth forms" tend to direct the system to move from place to place.

A Linear Patch is less effective at protecting internal welds than a round Patch. This may be considered true with species requiring distance from human activities, and generally in conservation of domestic species. Considering substrate or habitat homogeneity, a compact blot should contain higher species richness than a linear Patch with few domestic species. Because the increase in the domestic area shall allow the addition of more species than the increased edge area.

The associations of ecological characteristics with linear, curved, internal and environmental characteristics are fundamental to determining the optimum shape of a Patch. Currently, it is agreed that round Patches have an ecologically optimum shape in terms of internal species in the literature. A Patch performs a number of key functions. Based on this information, Patch classes for the project area have been also examined with shape-based metrics. The closer the MPFD value is to one and the smaller the MPAR values, the higher the habitat function. Based on this assumption, shape metrics of Patch classes have been evaluated and habitat function ratings have been made (Table 1.4).

Table 1. 4: Patch Classes Shape Metrics

Patch Classes	AWMSI	MSI	MPAR	AWMPFD	MPFD	Habitat Function
Tree Vegetation	1,84	1,7364	449,7100	1,0902	1,1083	5
Shrub Vegetation	2,11	1,9279	369,6300	1,0997	1,0990	4
Herbaceous Vegetation	2,76	1,5992	133,3460	1,1202	1,0583	3

MSI: Mean Shape Index; AWMSI: Weighted Mean Shape Index;; MPAR: Mean Perimeter Area Ratio; MPFD: Mean Patch Fractal Dimension ; AWMPFD: Weighted Average Patch Fractal Size

The margins and interior often look similar, but they are different. For example, vertical and horizontal structure, thickness, species composition and abundance, spot margin and conditions inside are different and Together they create the edge effect. The flow of nutrients, water and energy is affected by the irregular or smooth linearity of a patch border.

Three criteria stand out in the landscape measurements of the Patch edges. TE (Total Edge), ED (Edge Density), MPE (Mean Patch Edge). In these indices, edge density appears as the most important index. Because the lower the density, it is assumed that the patch class has fewer edges and therefore contains more inner species. Based on these determinations, edge

metrics were produced for the project site and relevant habitat function values were assigned (Table 1.5).

Table 1. 5: Border Metrics of Patch Classes

Patch Classes	TE	ED	MPE	Habitat
Tree Vegetation (ABÖ)	19710	6,33	2190	5
Shrub Vegetation (ÇBÖ)	19380	6,22	6460	4
Herbaceous Vegetation (OBÖ)	37050	11,90	9263	3

TE: Total Edge; ED: Edge Density; MPE: Mean Patch Edge

The fact that the area, which is a habitat for fauna, is free from environmental negative effects is one of the most important factors for their selection. In this context, The presence and size of the core areas in the domestic parts of the patches with habitat characteristics are a determining factor for the habitat function. Revealing the core area quantitatively with metrics enables this situation to be expressed numerically. In this context, Core area metrics have been calculated for the project site. The number of core areas, based on the determination that the total core area and therefore the spots with high core area index will have high values in terms of habitat function, have been evaluated (Table 1.6).

Table 1. 6: Patch Classes Core Area Metrics

Patch Classes	NCA	TCCA	CAI	Habitat Function
Tree Vegetation (ABÖ)	8	205,65	23,62	3
Shrub Vegetation (ÇBÖ)	6	395,55	45,50	5
Herbaceous Vegetation (OBÖ)	3	1902,06	42,97	4

NCA: Number of Core Areas ; TCAA: Total Core Area ; CAI: Core Area Index

In obtaining the total habitat function, the scores of the patch classes evaluated according to the three indicators above have been added. In this context, a relative evaluation of the three patch classes with respect to each other has been made and transferred to the map.

As a result, the Habitat Function of the Landscape given in Figure 1.10 was obtained according to the scores given.

Accordingly, The western parts of the project area are low grade, the north, northwest, south, east and interior areas of the project area are medium grade, and the eastern and northern sections of the project area are areas with high habitat value (Figure 1.10).

In order to guarantee the continuity of species in these areas with high habitat value, important wildlife and vegetation must be protected.

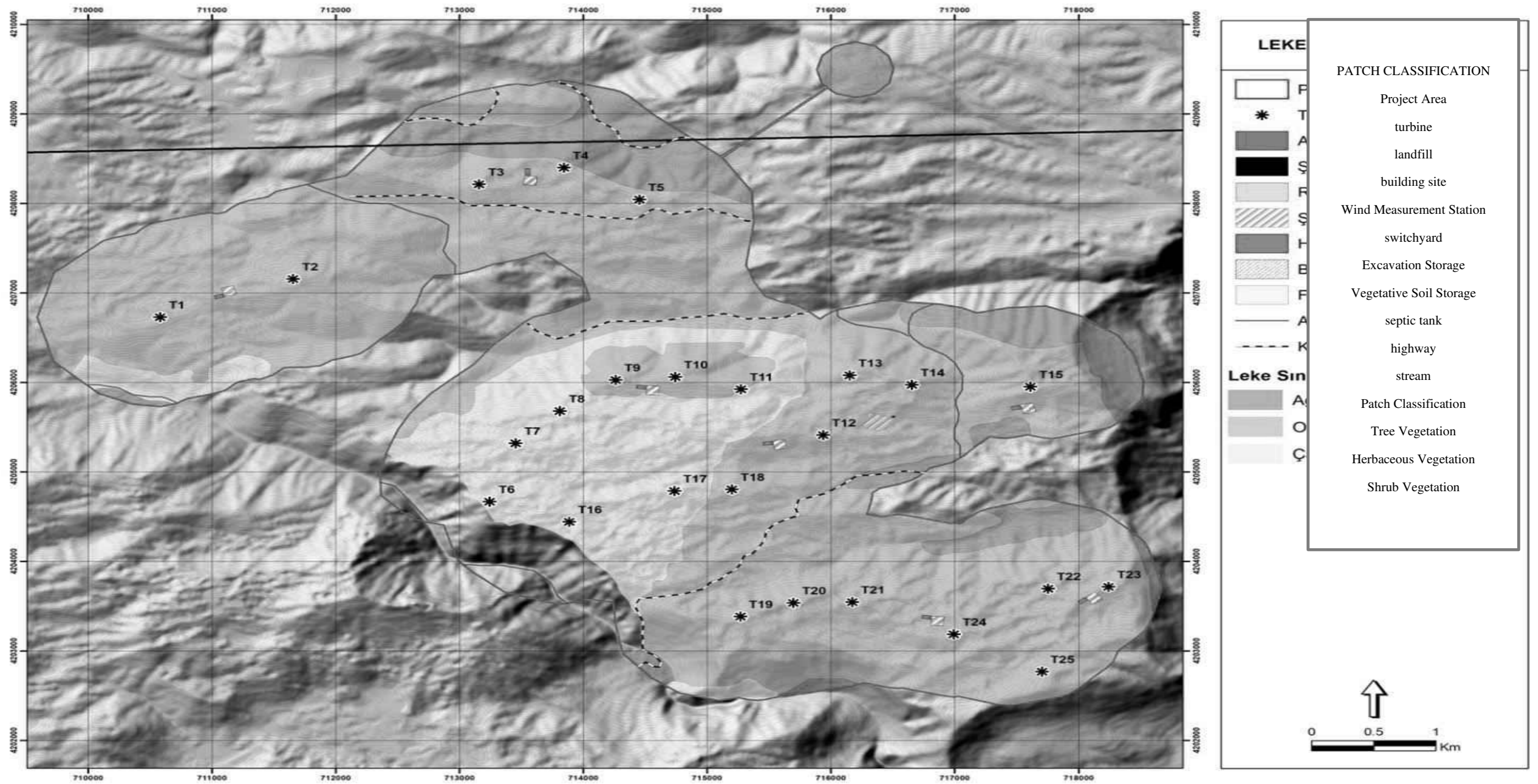


Figure 1.9: Patch Analysis

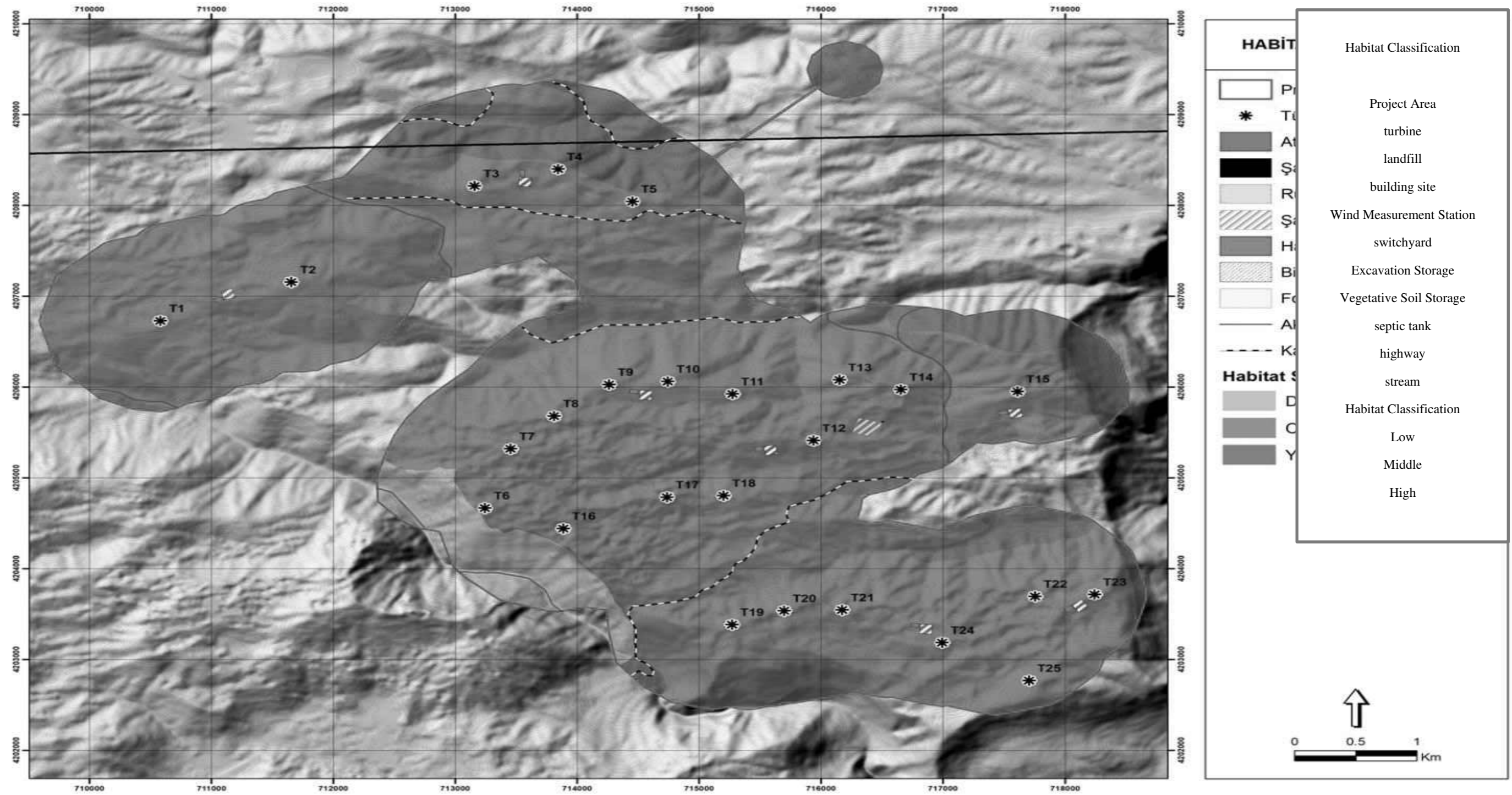


Figure 1.10: Habitat Function

1.3 Visual Function Analysis

The main elements affecting the visual landscape within the project area are the wind turbines and the switchyard. Determining the amount of visibility of these structures from the periphery of the site shall be an important input data in the development of the right strategies in terms of preventing or supporting this situation under necessary conditions.

For this purpose, By applying viewshed analysis in the GIS (Geographic Information Systems) environment, which includes the determination of the visual function of the landscape, the visibility rates of the structures in the field were determined spatially. In this context, In the previous parts of the study, the topographic structure was modeled using the DEM (Digital Elevation Model) image produced from the digital contour data. The state of appearance caused by this structure is modeled. The concave structure of the earth is also taken into account in the calculation of visibility.

There are no important touristic routes in the project area and its immediate surroundings. The areas where the project structures are visible on the existing roads reaching the project area have been removed and these areas are given in the Landscape Rehabilitation Plan in Figure 2.2.

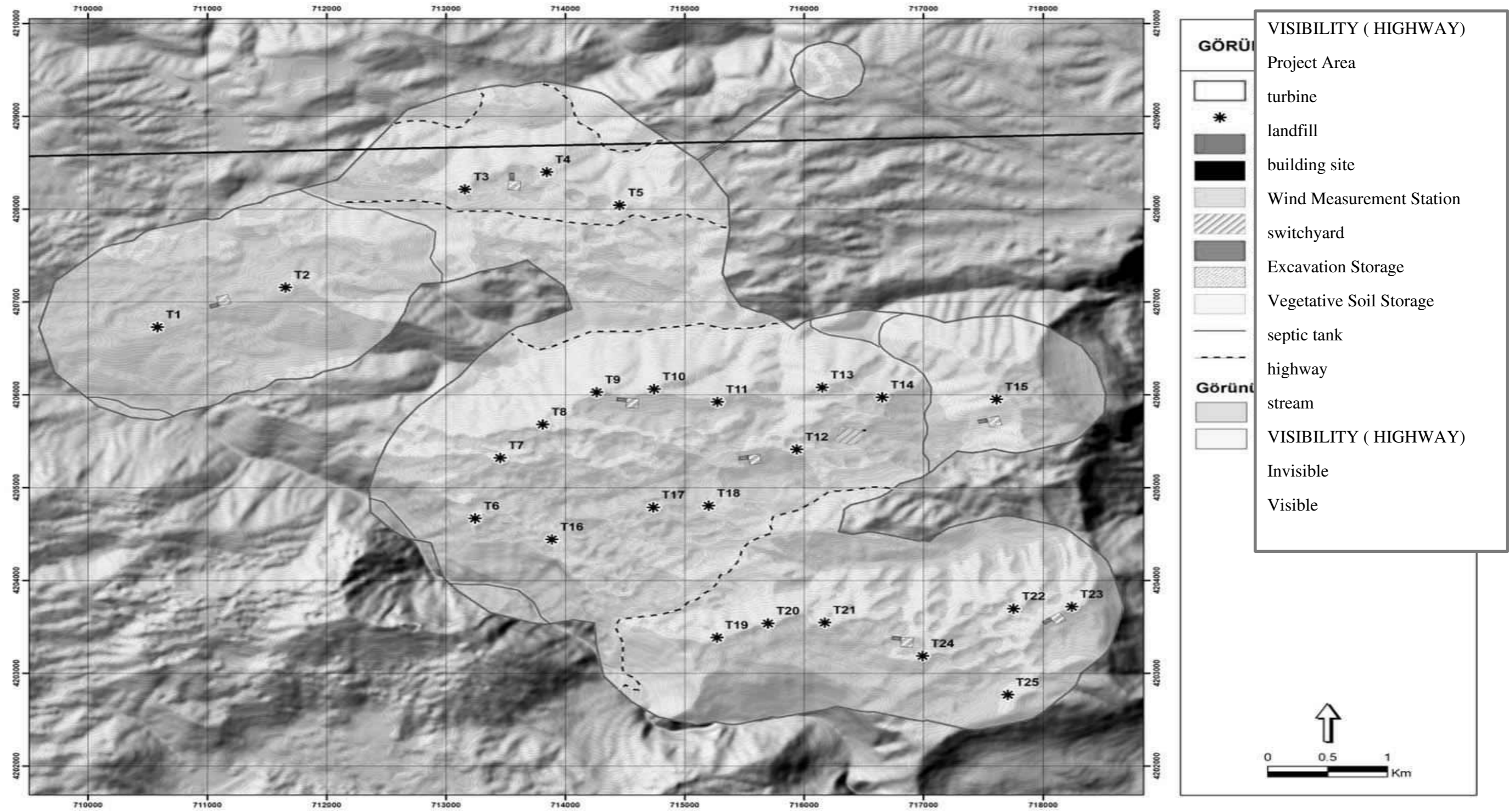


Figure 1.11: Visual Function of Landscape; Highway

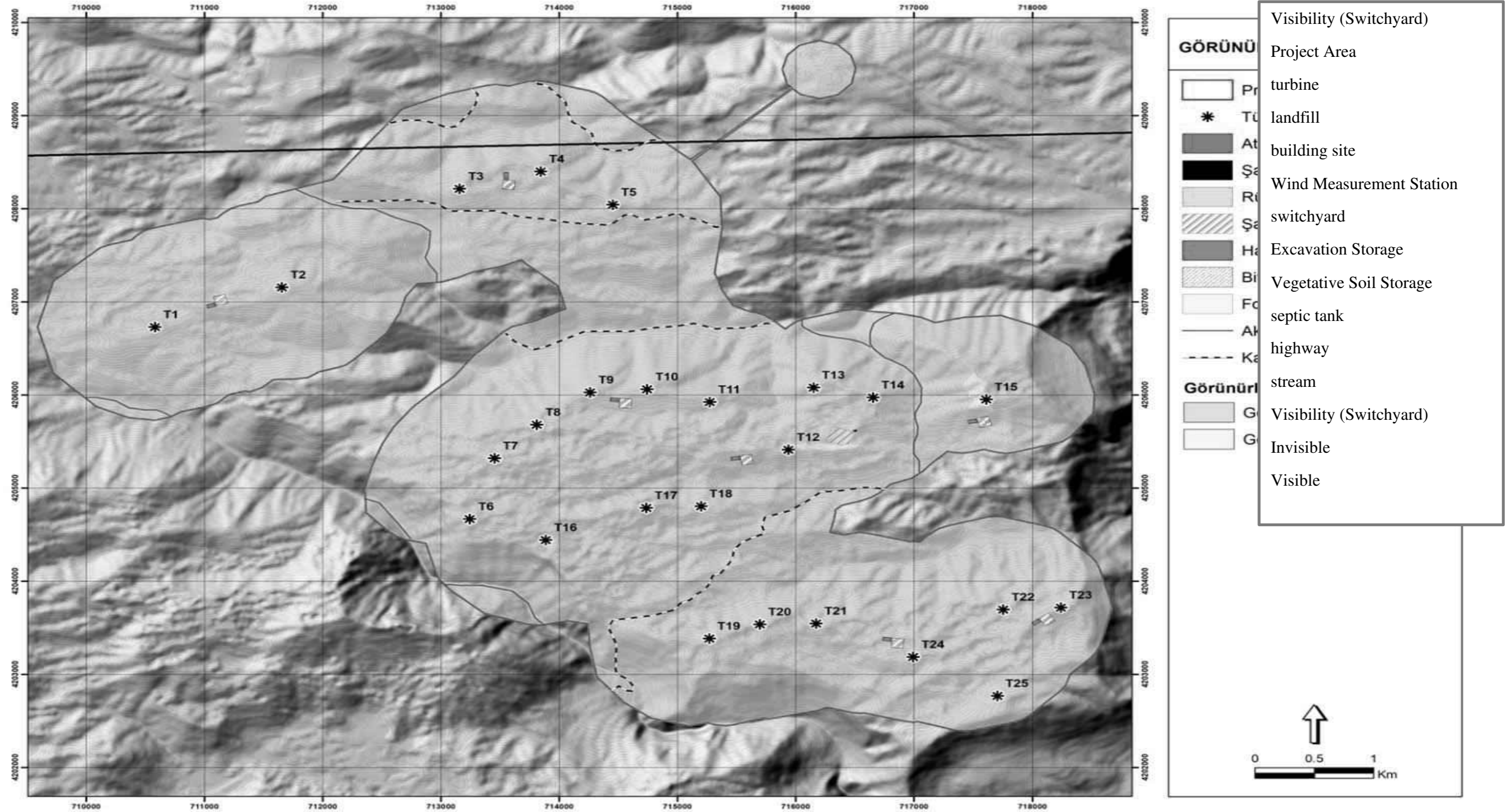


Figure 1.12: Visual Function of Landscape; Switchyard

2. EVALUATION AND DETERMINATION OF LANDSCAPE REHABILITATION TARGETS

2.1 Erciyes WPP Project Landscape Rehabilitation Plan Environmental Impacts and Protection Measures

It is known that wind power plants have negative effects on the area where they are established and their immediate surroundings. These effects, which are tried to be limited and reduced by the relevant laws and regulations, can be grouped into two groups as construction and operation phases.

The effects during the construction phase are as follows;

- Temporary land occupation,
- Increase in temporary air pollutant emissions,
- Temporary discharges to water and physical effects on water beds,
 - Temporary noise emissions,
- Changes and deterioration in soil structure,
- Changes and deterioration of habitats, flora and fauna,
- Inconveniences to those living around the power plant area,
- Visual changes in the landscape,
 - Changes and deterioration of existing properties, including infrastructure, archaeological and cultural heritage resources,
- Changes and degradation of land and associated impacts on land use and users.

The effects during the operation phase are;

- Limitation of agricultural activities and development activities,
- Changes in ecology,
- Changes in the landscape,
- Noise,
- Light reflection (shadow flicker)

Possible impacts and protection measures in the Erciyes WPP project area are given in Table 4.1.

ENVIRONMENTAL COMPONENTS	EFFECTS	MEASURES
<p>SOIL</p>	<ul style="list-style-type: none"> - Soil erosion - Decreased soil fertility - Change of drainage - Contamination of the soil 	<ul style="list-style-type: none"> - Pre-construction soil surveys to determine the depth of the topsoil in the areas where excavations are made in the field. - Stripping and storing of vegetal soil at the thickness determined according to the survey results - Use of special equipment for this in order not to mix with the subsoil in places where the vegetative soil thickness is low - The areas facing southwest should not be preferred as much as possible in order to be less affected by the sun's rays while the topsoil is stored. - The top and bottom soil should not be stored too inclined and high in order to avoid stabilization problems. - Stripping of subsoil and storage separately - Use of movable mats for heavy equipment on poor soils with high water levels - Taking necessary precautions to avoid spilling chemicals on the soil - Providing drainage control - Laying the soils in their old state after construction

		<ul style="list-style-type: none"> - Taking permanent erosion control measures for erosion risk - Doing Biorestore
SURFACE WATER	<ul style="list-style-type: none"> - Deteriorations in the waterside and bed morphology with physical studies - Impacts on downstream ecology and human use - Pollution of water - Sedimentation and turbidity 	<ul style="list-style-type: none"> - No construction or storage, vehicle fuel location etc. applications within 50 m of the water source - Necessary construction measures to prevent deterioration of the stream bed - Sediment filters
ECOLOGY	<ul style="list-style-type: none"> - Damage/loss of habitats - Loss of populations of endangered species - Turbines pose a collision risk, especially for birds and bats - affecting of changes in surface cover on the carrying capacity of the area and the behavior of the species 	<ul style="list-style-type: none"> - Conducting ecological studies before construction - Careful construction of the seasonal sensitivity of the species according to the results of the survey, according to the times - Implementation of protection measures related to plant and animal species whose existence is detected in the Project Site after the surveys - Providing training to employees during construction - Making the layout plan of the turbines correctly

Table 2. 1: Environmental Impacts of Erciyes Project Landscape Rehabilitation Plan and Precautionary Measures

ENVIRONMENTAL COMPONENTS	EFFECTS	MEASURES
LANDSCAPE AND VISUALITY	<ul style="list-style-type: none"> - Long-term/Permanent visual impact - Short-term visual impact for villagers during construction <ul style="list-style-type: none"> - Change of rural landscape image (turbines, buildings, etc.) 	<ul style="list-style-type: none"> - Keeping the construction area as narrow as possible - Utilizing existing roads - No damage outside the construction site - Taking protective measures to reduce the impact of heavy machinery to be used - Implementation of soil management <ul style="list-style-type: none"> - Conservation of the soil - Restoration of unused areas after construction - Erosion control when necessary - Biorestoration <ul style="list-style-type: none"> - Screening with plants suitable for the region for permanent buildings
NOISE	<ul style="list-style-type: none"> - Negative impact of noise during construction for settlements and habitats - Noise effect of turbine blades during operation 	<ul style="list-style-type: none"> - Use of noiseless or low-noise construction machinery and equipment - Regular maintenance of equipment so that it does not make too much noise - Arrangement of working hours
DUST	<p>Negative impact of dust emission during construction for settlements and habitats</p>	<ul style="list-style-type: none"> - Irrigation on roads - No use of explosives
REFLECTION OF LIGHT (SHADOW FLICKER)	<ul style="list-style-type: none"> - Flickering effect of turbines for settlements and habitats - The risk of light reflection on drivers on the roads 	<p>Located The settlements and roads at a sufficient distance from the turbines,</p>
RECREATION	<ul style="list-style-type: none"> - Damage/loss of recreational resource values - Blocking activities 	<p>Reinstatement works and completion in a short time</p>

2.2 Erciyes WPP Project Landscape Rehabilitation Plan Area Landscape Rehabilitation Intervention Forms

At this stage, It has been provided that the potential erosion, permeability and habitat maps obtained in ensuring the sustainability of the landscape in terms of soil protection function were overlapped and interpreted together. Thus, within the area, functional areas that need to be protected for natural life and human life, that is, sensitive areas in terms of landscape function have been determined. By overlaying maps containing erosion risk, permeability and habitat values, Sensitive areas have been determined in terms of landscape function in Figure 4.1.

Sensitive areas in terms of landscape functions include areas that can be damaged in case of human interventions. Accordingly, there are 1st, 2nd and 3rd degree sensitive areas within the project area. 1st degree sensitive areas are in the west, northwest, north and inner parts of the project area, 2nd degree sensitive areas are in the east, south, southeast, north, northwest and inner parts of the project area, 3rd degree sensitive areas are in the project area east, west, southwest, are located in the northwest and interior parts (Figure 2.1).

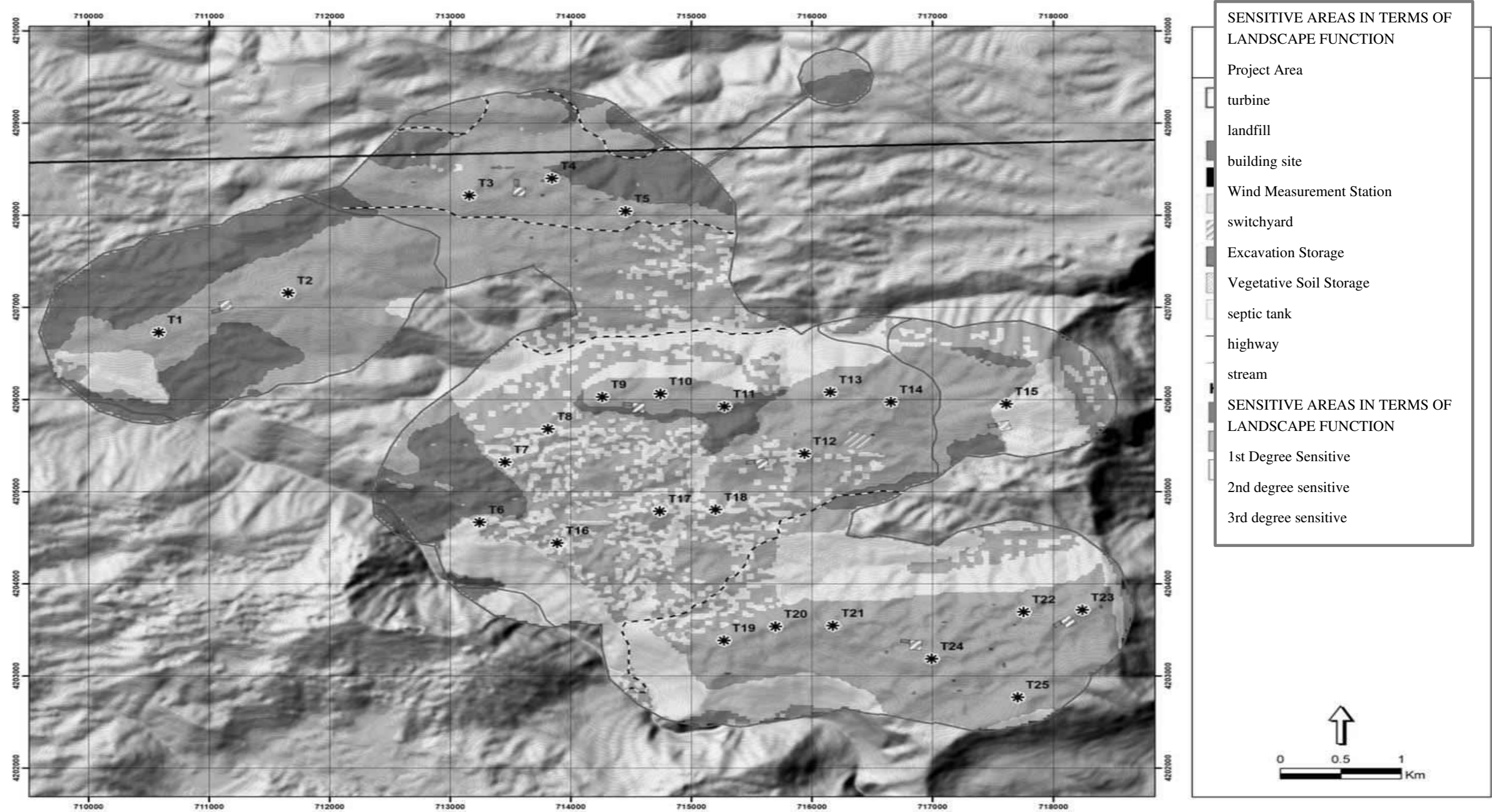


Figure 2.1: Sensitive Areas in Terms of Landscape Functions

The purpose of the Erciyes WPP Project landscape restoration is to restore and/or improve the landscape and habitat areas degraded after construction. In order to achieve the landscape restoration goals of the project, The forms of intervention that should be applied are set out in Figure 2.2. Interventions in the field; The areas whose quality shall be preserved, the areas where vegetation and structural measures should be taken for erosion control purposes, the area to be screened and the area where soil management shall be made are grouped into 4 groups. How to intervene in these areas is explained below with its vegetative and structural dimensions.

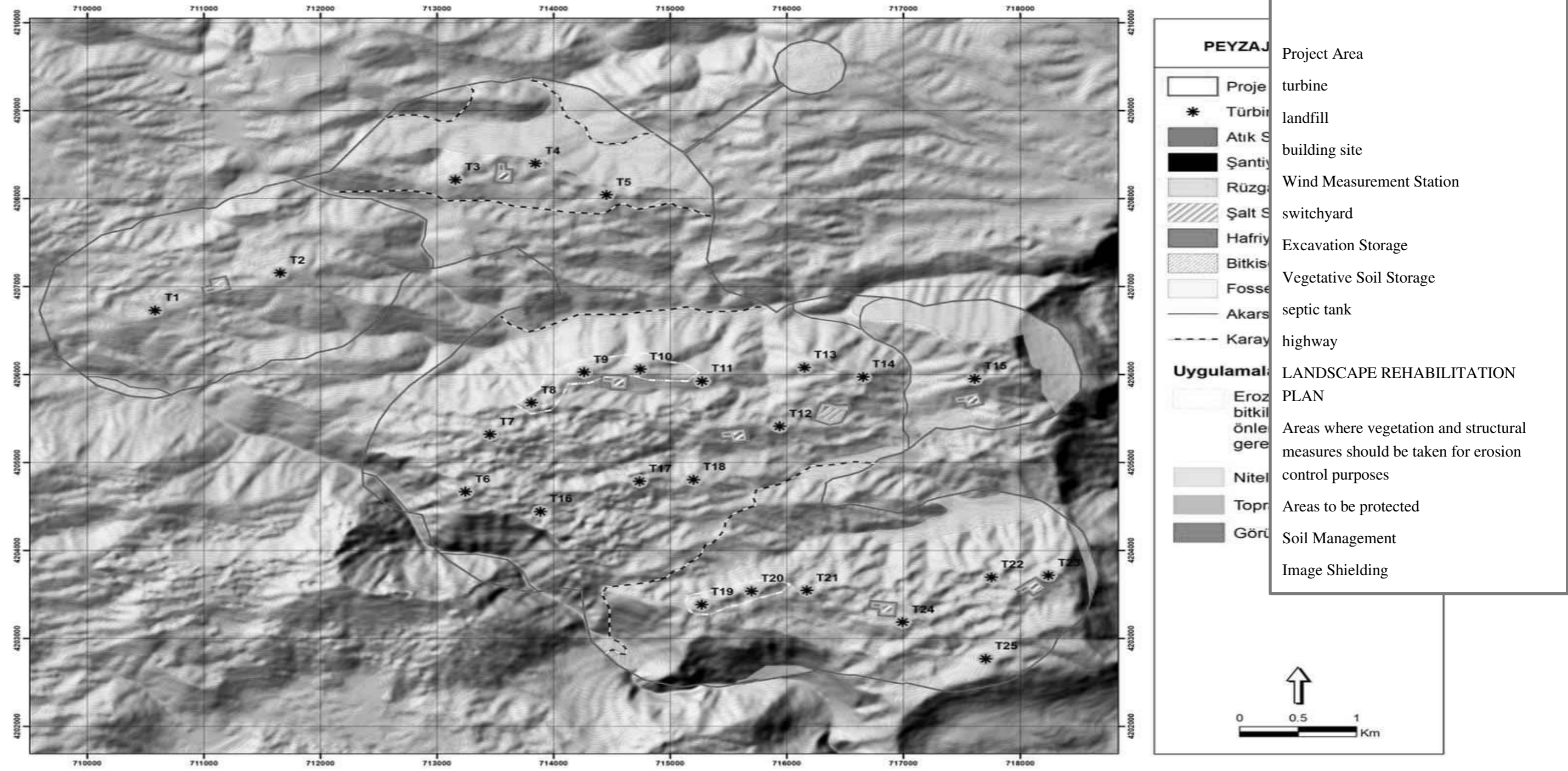


Figure 2.2: Landscape Rehabilitation Plan

Soil management (Rehabilitation): In all landscapes to be intervened, the top soil shall be stripped, stored and maintained to be used in landscape restoration works after the project.

Accordingly, Areas requiring construction works within the project site, are the wind turbines and the switchgear center and the new roads to be opened within the project area. In the excavations to be made within this scope, The topsoil layer to be taken from the surface during excavation should be deposited in the topsoil storage area to be used for surface covering in landscaping works.

Area to be Protected Its Qualification: As a result of the habitat analysis, the areas whose quality should be protected are the forest areas located in the northern, northeast, eastern and southern parts of the project area. In order to guarantee the continuity of the species in these areas, Important wildlife and vegetation needs absolute protection. In this context, In these areas, wildlife should be protected and human interventions should be minimized, and vegetation (trees, shrubs, herbaceous) should not be destroyed. In these areas, wildlife should be protected and human interventions should be minimized, and vegetation (trees, shrubs, herbaceous) should not be destroyed.

Areas where vegetation and structural measures should be taken for erosion control purposes: With erosion function analysis, parts of the area with a high risk of erosion have been determined. There will be no construction activities within the study area. There are areas that shall not be affected by the activities to be carried out within the scope of the project. These areas may have high or very high erosion risk according to the results of function analysis. However, it is thought that interventions for erosion control purposes will trigger erosion. For this reason, according to the results of the erosion function analysis, structural and vegetative interventions for erosion control have been proposed in the areas where construction activity takes place in the study area and which are affected by this activity. It has been deemed appropriate not to interfere with other parts of the area. After all, The company is obliged to take all kinds of herbal and structural measures in case of a possible risk and danger in these parts that are not intervened.

Planting for erosion control purposes should be carried out together with structural measures. Where necessary, water breakers, turning and discharge channels, pocket terraces, silt traps should be constructed. On the other hand, it is absolutely necessary to construct control embankments in stream beds.

Areas at risk of erosion are the areas where wind turbines 8, 9 and 10 are located in the eastern and inner parts of the project area and the sloping slope areas around them and the wind turbines no. 19 and 20 are located in the south of the project area and the sloping slope areas around it. Terraces must be used on Wind turbines 8, 9, 10, 19 and 20 located in the inner and southern parts of the project area, where there is a risk of erosion and the slope is up to 30%, and on the sloping slopes around it.

Vegetation for shielding purposes: Since the forest cover creates a relatively shielding effect in the permanent structures to be built for the Erciyes WPP Project and the said project structures shall be visible from the existing road routes in the immediate vicinity of the project area, Vegetation for screening purposes should be carried out around the switchyard, waste area, construction site, excavation storage area and septic tank within the project area.

3. BIOLOGICAL/TECHNICAL REHABILITATION AND APPLICATION

3.1 Forms of Biological and Technical Rehabilitation

In the Erciyes-RES project area, which is located within the borders of Yahyalı District of Kayseri Province, mainly steppe vegetation and agricultural areas come to the fore. The following species have been dominantly identified in the steppe vegetation at the project site; *Juniperus oxycedrus* L. subsp. *oxycedrus*, *Adonis flammea* Jacq., *Anemone blanda* Schott & Kotschy, *Ceratocephalus falcatus* (L.) Pers., *Consolida hellespontica* (Boiss.) Chater, *Nigella arvensis* L. var. *glauca* Boiss., *Ranunculus arvensis* L., *Berberis crataegina* DC., *Hypocymum procumbens* L., *Papaver argemone* L., *Papaver rhoeas* L., *Roemeria hybrida* (L.) DC. subsp. *hybrida*, *Aethionema armenum* Boiss., *Alyssum minus* (L.) Rothm var. *minus*, *Alyssum pateri* Nyar subsp. *pateri*, *Conringia perfoliata* (C.A.Mey.) Busch., *Erysimum bicuspidatum* (Bieb.) DC., *Minuartia hamata* (Hausskn.) Mattf., *Silene aegyptiaca* (L.) L. fil. Subsp. *ruderalis* Coode & Cullen, *Geranium purpureum* Vill., *Paliurus spinachristi* Miller, *Astragalus mesogitanus* Boiss., *Astragalus microcephalus* Willd., *Astragalus strictifolius* Boiss. Var. *kutepovii* Sirj., *Trigonella monspeliaca* L., *Vicia cracca* L. subsp. *stenophylla* Vel., *Amygdalus webbii* Spach, *Rubus canescens* DC. var. *glabratus* (Gordon) Davis & Meikle, *Rosa canina* L., *Astrodaucus orientalis* (L.) Drude, *Centaurea carduiformis* DC. subsp. *carduiformis* var. *carduiformis*, *Centaurea virgata* Lam., *Senecio vernalis* Waldst. & Kit., *Androsace maxima* L., *Vinca herbacea* Waldst. & Kit., *Buglossoides arvensis* (L.) Johnston, *Alkanna tinctoria* (L.) Tausch subsp. *tinctoria*, *Verbascum leianthum* Bentham, *Orobanche anatolica* Boiss. & Reuter ve *Allium scorodoprassum* L. subsp. *rotundum* (L.) Stearn.

The existence of agricultural lands in 4 different sections throughout the project area has been determined. Wheat cultivation is carried out in these areas, and the following species have also been identified: *Adonis falammaea* Jacq., *Ceratocephalus falcatus* (L.) Pers., *Descurania sophia* (L.) Webb&Berth., *Sinapsis arvensis* L., *Erodium cicutarium* (L.) L'herit subsp. *Cicutarium*, *Coronilla varia* and *Malabaila secacul* Banks& Sol.

The most important issue to be considered when starting planting works in the field is the selection of the right species. The most important criterion in species selection is to reconstruct the natural vegetation of the area. In case of loss of vegetation as a result of any destruction in mountainous areas with high inclination, It takes a long time to come back. Terracing is the most effective way to bring vegetation back to the field in a short time and to stop the surface flow. Erosion can be prevented by rehabilitation of vegetation at the points

where the land slope is subsoil and the topsoil layer is sufficient. However, at points where the land slope is high and the soil depth is shallow, the success of seeding and seedling planting works for the renewal of vegetation partly depends on due to the terracing work. The most important task of the terraces is to reduce the carrying capacity of the water flowing downstream by keeping the water.

With the terracing works, the surface flow is carried out in a safe way, and the infiltration of water into the soil is also ensured.

It is important for the sustainability of these areas to take vegetative measures as soon as the construction is completed. The most important issue to be considered when starting planting works in the field is choosing the right species. The most important criterion in species selection should be the re-creation of the natural vegetation of the site. In addition, These fences should be supported with live fences made of willow branches. Vegetation shall be done more intensively in parts where erosion risk is high and these areas will be given priority at the beginning of the Rehabilitation.

Species to be selected for insemination must necessarily consist of naturally occurring species of the field. Any introduction of exotic and invasive species to the site shall be avoided as much as possible. During the biorestitution work, the living cover still existing in the field shall be preserved without being affected by the construction activities.

On-site tillage work may be needed to regenerate plants in degraded areas. Soil cultivation shall be carried out in the field with the machine in the form of continuous terraces, cut terraces or quarries with the machine in the full area and in strips where appropriate, and with the worker in other places that are not suitable for machine operation. The main benefits of tillage are: a) To increase the water holding capacity and aeration of the soil by gaining a crumb structure, b) To provide a loose structure to the soil in the plant root development zone and to enable the roots to develop easily, c) To increase microorganism activities, d) To prevent water loss by evaporation by breaking the capillarity, e) To provide that the roots of the saplings easily absorb the water and nutrients from the soil.

Tillage shall be done when soil moisture is sufficient, that is, when the soil is tempered. Since the soil is dry and hard in summer, and there is too much mud and freezing in winter, it is not possible to tillage in accordance with its technique.

Tillage should be applied in completely degraded areas, except where the existing vegetation is preserved. It shall be 35-40 cm deep and 60-80 cm wide on the line determined in the field, parallel to the soil cultivation leveling curves, taking into account the planting intervals of the species to be planted. The terrace surface shall be 10-30% inclined towards the slope. Terrace construction shall start from the upper part of the slope and continue towards the subsoil level.

In places where the soil depth is too low to improve the existing growing conditions in these areas, The vegetative soil that has been removed during the excavation and stored separately shall be laid.

The parts where there is sufficient soil depth shall be ready for planting or planting after the soil has been tilled by machine or human power.

If there are enough seed-producing plants in the field, during the seed maturation period, Natural seeding shall be utilized in maximum extent. A suitable germination environment shall be created for the seeds by making superficial soil cultivation in appropriate periods in the areas where seeds are planted. Coarse grained seeds shall be sown using sowing hoes in hearths or rows, and small grained seeds shall be sown by scattering method in terraces or quarries and strips where soil cultivation has been done.

In areas where soil cultivation is not possible or not required due to suitable environmental conditions, sowing carried out by spreading. The seed sowing time shall be compatible with the natural seed casting time. During sowing, attention shall be paid to the homogeneous distribution of seeds on the field. Seeds shall get medicated against pests.

Shrub species that will not be able to be germinated and grown by on-site seed sowing method shall be identified. Seed ripening and pouring time of such plants shall be followed and collected. The collected seeds should be germinated and produced in places with seed germination infrastructure. It shall be developed in containers until it is ready for planting and then it shall be planted in the field.

Planting works in the project area shall start in the autumn and winter months when the vegetation period ends and shall be completed until the spring months when the vegetation period starts again.

The factors to be considered in planting seedlings and saplings are given below:

|| The 30-40 cm part of the soil, which is the planting depth, will be moist and tempered.

|| Planting shall be carried out on windy, cold and frosty days.

|| The planting pit shall be opened at least 5 cm deeper than the root of the sapling.

|| Saplings should be planted at root collar level. At the bottom of the pit, topsoil rich in organic matter and moist should be placed. Solid materials such as stones, roots and dung shall be prevented from entering the pit.

|| After planting, the soil shall be compressed by pressing the perimeter of the seedling with the foot without damaging the seedling root. In areas with heavy textured soils, excessive compaction of the soil shall be avoided.

|| Planting shall start from the top of the slope and continue downwards.

|| The time between the removal of the seedlings and the planting of the seedlings in the field should be very short. For this reason, seedling planting planning shall be made according to the weather and worker potential and it shall be used as fresh saplings as much as possible.

|| Bales of seedlings shall be stored in cool and secluded places in a closed and airy place where they do not touch each other. The day must be turned upside down and the bales shall be heated.

It should not be forgotten that; It is impossible for the studies to be successful without the participation and support of the working staff and local people. In this context, necessary information activities shall be carried out at the project sites. Warning and informative signs regarding priority species, protection and bio restoration targets shall be placed in and around the project sites, especially on the new roads to be opened and the edges of the old roads to be used by improvement.

All personnel to be involved in construction works shall be informed regarding the living creatures living in and around the project site, the landscape values of the area and ecological sensitivity, and illegal hunting shall be prevented by the personnel.

3.2 Implementation

As shown in the Vegetation Master Plan for the field of activity, Areas to be affected by the activity are classified as 1st degree sensitive, 2nd degree sensitive and 3rd degree sensitive in terms of Rehabilitation targets. In areas requiring 1st degree sensitive and 2nd degree sensitive priority Rehabilitations, it is recommended to improve the subsoil and topsoil vegetation and to carry out erosion control. In the 3rd degree sensitive Rehabilitation area, it has been deemed sufficient to preserve the existing vegetation and landscape features. According to this; implementations to be made in areas in 1st degree sensitive and 2nd degree sensitive Rehabilitation priority areas are explained below:

- **Improvement of Topsoil and Understorey Vegetation**

In this implementation, The aim is to prevent further erosion and to best improve vegetation in areas where erosion may occur (biological intervention).

In areas with priority for 1st degree sensitive and 2nd degree sensitive Rehabilitation, gully arbitration with terracing, gully arbitration with bush, tree planting, grass planting, fence implementation etc., It shall give positive results in terms of improving the subsoil and topsoil vegetation.

- **Erosion Control**

This Rehabilitation strategy shall be applied in the areas where erosion control is carried out in the landscape restoration plan. Permanent erosion method shall be applied here, since it is also around the river and the valley it creates.

Areas at risk of erosion; are the wind turbines 8, 9 and 10 located in the eastern and inner parts of the project area and the sloping slope areas around with Wind turbines 19 and 20 located in the south of the project area and the surrounding slopes.

Terraces should be used in Wind turbines 8, 9, 10, 19 and 20 located in the inner and southern parts of the project area, where there is a risk of erosion and the slope is up to 30%, and on the sloping slopes around it.

Terrace Set

Terrace Sets; are classified as soil terraces, stone terraces, stepped terraces (with or without currents), irrigation terraces, and trench terraces and pocket terraces. This type of terraces can be applied where the slope of the land is up to 30%. Precipitation waters can be removed from the land by grazing waterways or exits made by pipes so that they can be drained safely from the land.

The terraces are formed by measuring one by one, parallel to the contours. The width of the terrace is 4 m. The sets formed are generally between 1.5-2 m. The slopes, which are 100-150 cm long, stand on an average 40-60 cm high untouched natural ground at an angle of 10-20 degrees.

Photo: Example of Terraces



Soil Stripping and Storage

Topsoil is the layer of material on the land surface. This layer contains most of the organic matter and therefore provides the majority of vegetative growth. Critically it contains the seed bank, that is, the seed store that is formed over time and is ready to germinate when conditions are favourable. Topsoil management is therefore an essential step in a replanting program. Managing topsoil quality, particularly its structure and integrity of the seed bank, is vital for both biological restoration work and erosion control.

In order to determine the depth of the topsoil in the areas where the topsoil is stripped in the project area, pre-construction soil surveys should be carried out and the vegetative soil should be stripped at the thicknesses determined according to the survey results.

Accordingly, The areas that require construction works within the project area are the main pipeline area, and in excavations to be made within this scope, The topsoil layer to be taken from the surface during the excavation is to be used as a surface covering in landscaping works should be collected in the topsoil storage area.

The correct management of the top soil in the project area should be done by soil experts and the technical information about the application is as follows:

On rocky slopes with little topsoil, tillage shall be carried out as follows:

- i. Topsoil shall be taken by hand or with small bucket excavators.
- ii. The resulting rocks shall be collected in one place.
- iii. The rocks shall be placed in their place.
- iv. The topsoil should be mixed with the collected seeds and this mixture shall be sprinkled between the rocks.
- v. If it is compatible with the erosion strategy, it shall be covered with an erosion mattress.

Where it is not possible to collect sufficient topsoil on rocky slopes:

- i. Topsoil shall be taken from places with similar habitats.
- ii. Organic materials such as straw/plant material and locally sourced manure shall be added.
- iii. It should be seeded from the surrounding natural plants or it shall be provided to come back on its own.

The Care shall be taken that a mineral-containing topsoil does not remain anaerobic during storage.

Unless the topsoil remains anaerobic, it shall remain in clumps for relatively long periods of time.

Anaerobic soil shall damage the seed bank in the soil.

Whether the soil has become anaerobic shall be tested as follows (not in winter):

- i. The change in moisture content and density shall be checked regularly using the theta probe and penetrometer, respectively.
- ii. If there is an increase of more than 15% and an unpleasant smell of putrefaction is felt when the soil is opened with a shovel, the pile must be transferred. This does not apply to organic soils.

Local type seeds will be used when necessary.

- If stones of various sizes are found in the collected topsoil, these stones in the soil shall also be preserved. Thus, the reinstated area can be looked alike to the surrounding land. If the site is a slope, large rocks shall not be buried in the ground to prevent them from rolling down the slope.

- When placing the topsoil, a flattened texture that is somewhat coarse, loose shall be achieved. This shall help the plants grow. After the subsoil is placed and loosened, the topsoil shall be removed from the heap and placed in its place using the excavator and shovel.

- While the topsoil is being laid, in order to prevent the restored surface from being trampled upon by vehicular traffic, it shall begin at the farthest point from the heap, in spreading the topsoil in place in strips or partitions. Thus, the topsoil shall be ready for plant growth again.

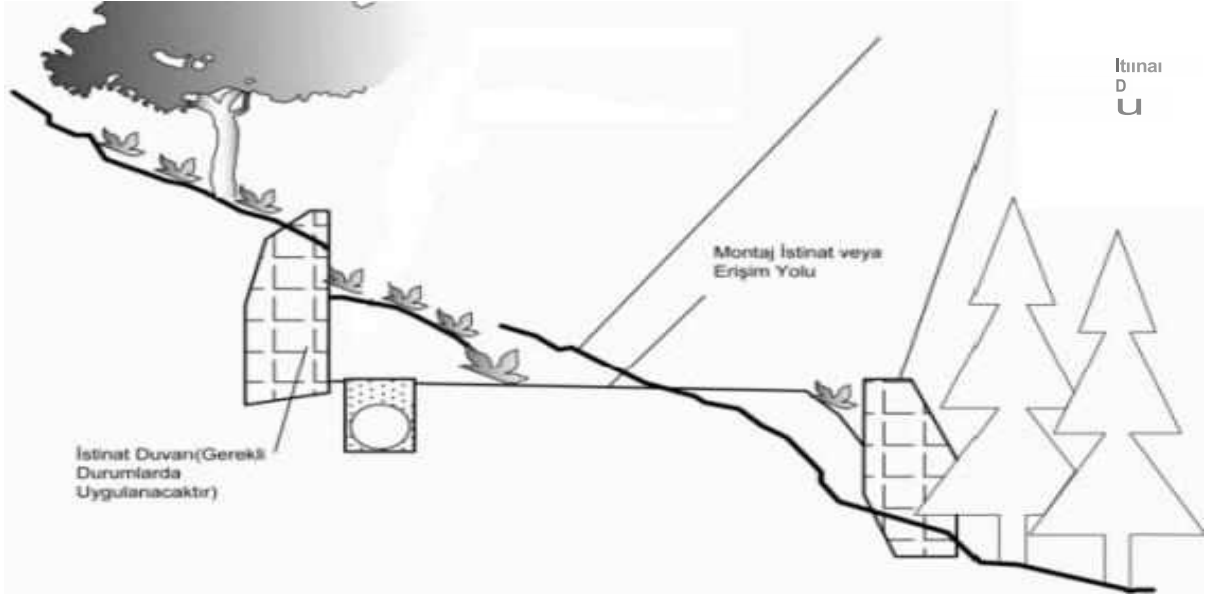
- While the topsoil is stored in the project area, areas facing south-west shall be preferred as much as possible in order to be less affected by the sun's rays.

*** Vegetation for Screening Purpose**

There are no important touristic routes in the project area and its immediate surroundings. Vegetation works for screening purposes shall be carried out around the switchyard, waste field, construction site, excavation storage area and septic tank located within the project area.

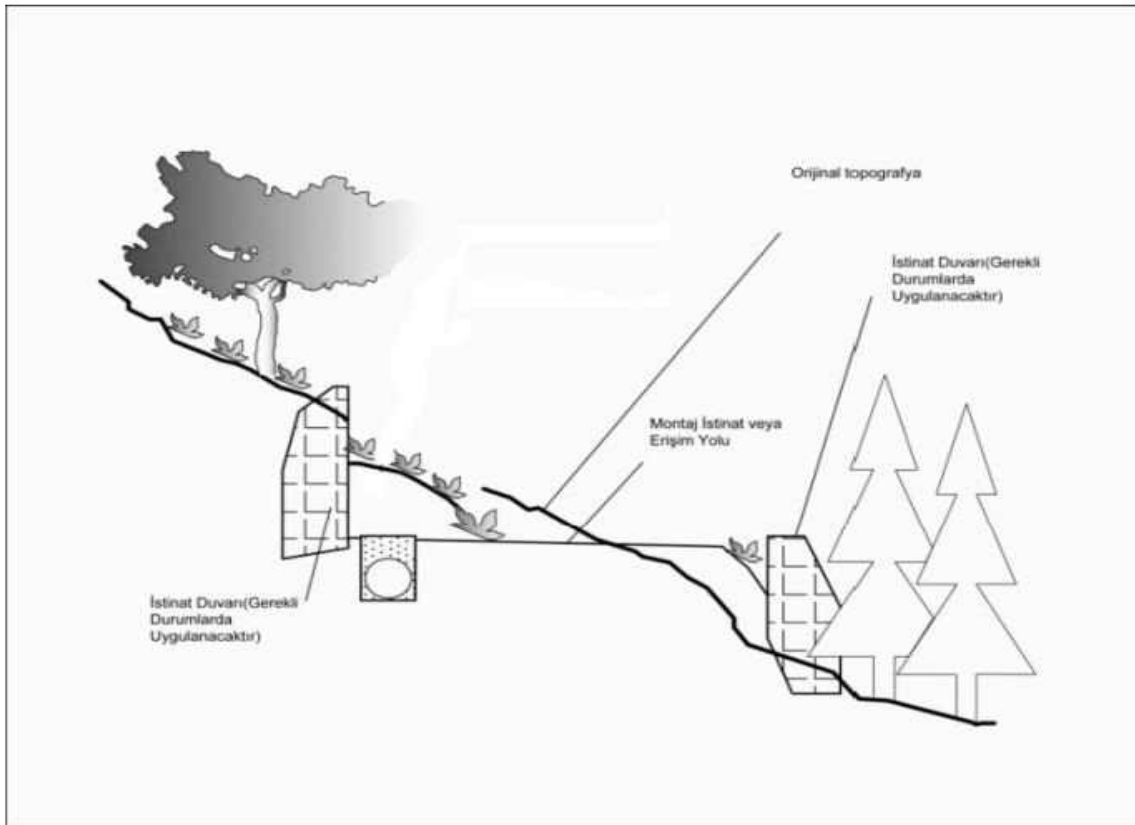
However, when choosing screening plants, Local plants in the natural landscape around the study area shall be used primarily. Figures related to the application are given below.

Figure 3.1: Herbal Screening in Landscape Rehabilitation Works



In order to reduce the visual and physical effects of access roads, planting works should be done in accordance with the natural structure, scattered along the road.

Figure 3.2: Landscape Rehabilitation Works, Roadside Vegetation



In planting, the extent that the plant will take under natural conditions should be taken into account. Plants to be used in landscape Rehabilitation /improvement and erosion control should be tubular plants at least 1-3 years old. The dimensions of the plants to be used in planting around the permanent facilities shall be determined by the landscape development plan.

Intervened topography and terrain shall be restored to a previous state. During landforming, The runoff of the reconstructed topography shall be connected to the natural drainage system around the intervention area. Naturalization studies should be carried out in material purchase quarries according to original plans and processes.

Apart from the above-mentioned practices, The title of soil storage before, during and after construction (during the Rehabilitation process) is explained below and a map showing the storage areas is presented.