



REPORT

İstres Elektrik Üretim A.Ş.

Non-Technical Summary for Tayakadın Wind Power Plant Project

Submitted to:

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1.0 INTRODUCTION

Tayakadın Wind Power Plant Project (the “Project”) consisting of 15 turbines with the total capacity of 51 MW_m/50 MW_e is planned to be established and operated in the Çatalca and Silivri Districts of İstanbul by İstres Elektrik Üretim A.Ş (İstres), a company under the Fina Enerji Holding A.Ş. (Fina).

The Project had several design revisions previously which are explained in chronological order below:

- İstres Elektrik Üretim A.Ş. started the national Environmental Impact Assessment process in 2009 with the initial project design of 25 turbines with a total capacity of 50 MW. In line with the Environmental Impact Assessment Regulation, Project Description File (“PDF”) was prepared and the EIA not required decision was obtained on 02.09.2009.
- On 21.07.2011, production license was given to the Project by Energy Market Regulatory Authority (“EMRA”) for 49 years.
- On 28.06.2012, the Project design was revised by increasing the number of turbines to 31 with a total capacity of 50.5 MW_m/50 MW_e. In line with this change, PDF was prepared and the EIA not required decision was obtained again on 25.04.2012.
- İstres Elektrik Üretim A.Ş. applied to EMRA again on 21.04.2015 for license modification and requested a field change and mechanical capacity increase. However, in the letter written by EMRA on 18/06/2015, it was stated that no action can be taken regarding mechanical capacity increase in accordance with the Electricity Market License Regulation. Then, İstres reapplied to EMRA on 01.07.2015 in order to request for the field change considering 50.5 MW_m/50 MW_e installed capacity. As a result of these, opinions of the relevant institutions were received for the new Project site in question and a new EIA process was initiated.
- On 08.08.2015, field studies were carried out in order to determine the floristic and faunistic characteristics of the site, geological, hydrogeological and hydrological characteristics, and the current environmental characteristics of the region. Performed field study were reported to the İstanbul Provincial Directorate of Environment and Urbanization.
- Afterwards, EIA report was prepared on 25.02.2016 and accordingly, EIA positive decision was obtained on 23.05.2016.
- After EIA positive decision, again the Project revised such that turbine locations were changed and the number of turbines was decreased to 15 with a total capacity of 51 MW_m/50 MW_e. The validity of EIA positive decision was checked by the İstanbul Provincial Directorate of Environment and Urbanization on 30.06.2016 (numbered: E.10992) and it is learned that EIA positive decision is still valid.
- On 26.12.2016, an application was made to the Ministry of Environment and Urbanization for the revision of the 15 turbine locations. The requested amendment of 15 turbine locations were approved on 11.01.2017 (numbered 665).
- Finally, the Ministry of Environment and Urbanization approved the revised layout plan for those 15 turbines on 09.08.2018 and opinions from other relevant authorities were taken.
- According to the latest information obtained from İstres, the location of Turbine 3, 11 and 12 was changed. The official letter from General Directorate of State Airports Operations has been obtained for the approval of the location change of these turbines at 23.09.2019.

The construction period is 9 months and operation will last for 49 years. The Project will be financed by International Finance Institutions (“Lender”) and therefore requires comprehensive assessment of certain environmental and social issues as a Lender requirement.

1.1 The Goal of This Document

This document is a non-technical summary (NTS) of the Environmental and Social Impact Assessment studies conducted for the Project according to the standards of international Lenders in a non-technical language, together with the mitigation measures proposed by İstres for the management of the Project environmental and social issues.

1.2 Standards to be Applied in the Project

İstres commits to adhere to the provisions of Turkish Legislation applicable to the Project during the life time of the Project. These requirements include (but are not limited to) the Environment Law, Occupational Health and Safety Law, Labour Law and their issued regulations.

The Project will also comply with the World Bank (“WB”) Environmental and Social Standards, European Bank for Reconstruction and Development (EBRD) Performance Requirements, International Finance Cooperation (IFC) Performance Standards and Environment Health and Safety (EHS) Guidelines Wind Energy, 2015 and Asian Infrastructure Investment Bank (“AIIB”) Environmental and Social Framework and European Union legislation. These requirements are more stringent than national legislation, European Union environmental and social standards.

1.3 Project Categorisations

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

Table 1: Project Categorisation

Category	Description of the Project		
	IFC	EBRD	KFW
Category A	Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented	Project that could result in potentially significant adverse future environmental and/or social impacts which, at the time of categorisation, cannot readily be identified or assessed, and which, therefore, require a formalised and participatory environmental and social impact assessment process.	Potentially diverse significant adverse or irreversible impacts or risks to human health, the environment or the climate.
Category B	Projects with potential limited adverse environmental and social risks and/or impacts those are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures.	Projects with potential adverse future environmental and/or social impacts that are typically site-specific, and/or readily identified and addressed through mitigation measures.	Significant adverse environmental or social impacts or risks are less severe and can usually be mitigated with state-of-the-art measures or standard solutions.

The potential environmental and social impacts and risks of the projects were identified based on the project screening information presented in the scoping report and the additional information collected during the scoping phase. These impacts and risks are:

- Site specific
- Seasonally identifiable,
- Readily addressed by standard industry practice mitigation measures (as also detailed in the following sections), and
- Largely reversible

Thus, the project is determined to be category A.

2.0 THE PROJECT

2.1 The Purpose of the Project

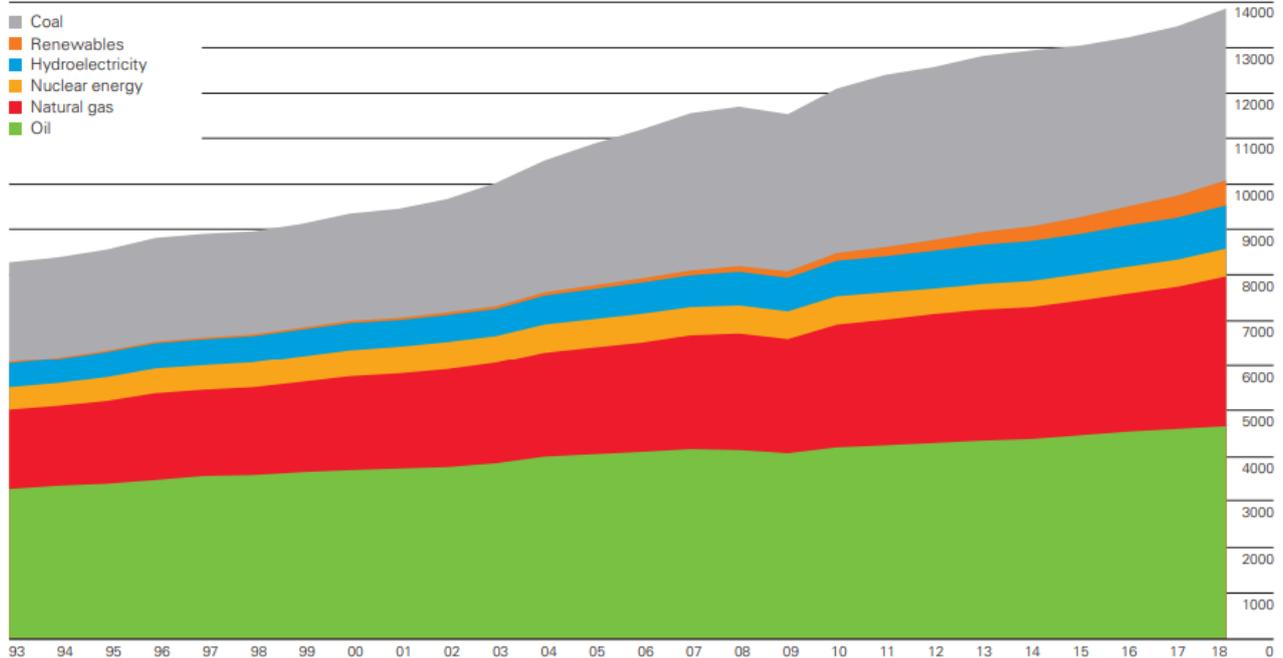
Tayakadın Wind Power Plant Project is planned to be carried out in İstanbul Province to generate electricity by using the renewable resource of wind power. The Project will consist of 15 turbines and each will have the type of GE 3.4-130 turbines.

Energy is an essential need of modern society. It is the cornerstone of all activities, particularly in industry, technology, transportation and communication. As well as the limited and depletion of available resources, a constant increase in energy demand forces humankind to find alternative energy sources. Therefore, environmentally, sustainable and renewable energy sources should be developed for the protection and sustainability of the world.

As can be seen from the graph below showing the world's energy outlook in 2018, energy requirement of the world increases day by day and the most of the world's energy demand is met from non-renewable energy sources such as oil, coal and natural gas, respectively. Unfortunately, use of renewable energy sources such as wind and solar power are not at the levels they should be yet.

World consumption

Million tonnes oil equivalent



Global energy consumption increased by 2.9% in 2018. Growth was the strongest since 2010 and almost double the 10-year average. The demand for all fuels increased but growth was particularly strong in the case of gas (168 mtoe, accounting for 43% of the global increase) and renewables (71 mtoe, 18% of the global increase). In the OECD, energy demand increased by 82 mtoe on the back of strong gas demand growth (70 mtoe). In the non-OECD, energy demand growth (308 mtoe) was more evenly distributed with gas (98 mtoe), coal (85 mtoe) and oil (47 mtoe) accounting for most of the growth.

Figure 1: Global Energy Consumption by Sources¹

As a solution for climate change and global warming, renewable energy sources come into prominence and therefore, countries try to invest more and more renewable energy projects to generate cleaner electricity.

Turkey's situation in electricity generation and shares by energy sources between 2007 and 2017 are given in below table. Turkey has been using natural gas as the main energy source for the last 10 years.

Table 2: Electricity Generation and Shares by Energy Resources in Turkey²

Year	Total (GWh)	Coal (%)	Liquid fuels (%)	Natural Gas (%)	Hydro (%)	Renewable Energy and wastes (%)
2007	191,558	27.9	3.4	49.6	18.7	0.4
2008	198,418	29.1	3.8	49.7	16.8	0.6
2009	194,813	28.6	2.5	49.3	18.5	1.2
2010	211,208	26.1	1.0	46.5	24.5	1.9
2011	229,395	28.8	0.4	45.4	22.8	2.6
2012	239,497	28.4	0.7	43.6	24.2	3.1

¹ Full Report - BP Statistical Review of World Energy, 2019

² Türkiye Elektrik Enerjisi Üretimine Kaynaklara Göre Dağılımı, TEİAŞ Türkiye Elektrik Üretim-İletim İstatistikleri, 2007-2017

Year	Total (GWh)	Coal (%)	Liquid fuels (%)	Natural Gas (%)	Hydro (%)	Renewable Energy and wastes (%)
2013	240,154	26.6	0.7	43.8	24.7	4.2
2014	251,963	30.2	0.9	47.9	16.1	4.9
2015	261,783	29.1	0.9	37.9	25.6	6.5
2016	274,408	33.6	0.7	32.5	24.5	8.7
2017	297,278	32.8	0.4	37.2	19,6	10.0

According to 2017 statistics of Turkey's electricity production from renewable sources (10.0%) is relatively low compared to natural gas (37.2%), coal (32.8%) and hydro (19.6%). However, the highest share increase was observed in the use of renewable sources where the share was increased from 0.4% to 10.0% in 10 years. According to the Electricity Market and Supply Security Strategy Document published in 2009, it is aimed that the share of renewable energy resources in energy production will be at least 30% in 2023.

In 2018, the installed capacity of Turkey has reached 88,551 MW. The installed power is distributed by sources as 31.9% from hydro, 25.6% from natural gas, 21.5% from coal, 7.9% from wind, 5.7% from solar, 1.4 % from geothermal and 5.9% from other sources.

Advantages of wind energy can be listed as:

- Wind plants do not cause air pollution unlike other conventional power plants.
- The source does not exhaust, it is reliable.
- The price is constant over time.
- Operational and maintenance costs are relatively low.
- Operation and technology are relatively simple.
- Investment cost has decreased so that it can compete with other power plants.
- It provides national benefit since it eliminates import dependency.
- It provides employment and regional development.
- Wind power plant components require relatively less space than fossil fuel power plants.

Turkey is a rich country in terms of wind. Even when the most reliable winds and technological difficulties which is based on consideration of the wind energy potential in Turkey is reported to be around 12 billion kWh/year.³

In this context, Tayakadın Wind Power Plant Project aims to install a wind power plant in İstanbul providing clean, sustainable and reasonable energy by contributing to the regional and national benefits.

³ Hayli, Selçuk. (2001). Rüzgâr Enerjisinin Önemi, Dünya'da Ve Türkiye'deki Durumu - The Importance of Wind Energy, The Situation in the World and Turkey.

2.2 Project Area

The Project Site is located in Aydınlar Neighbourhood, Yaylacık Neighbourhood and Binkılıç (Atatürk Neighbourhood) in Çatalca and Silivri Districts of İstanbul Province. Access to the Project area can be provided via the old Istanbul-Kırklareli road, Aydınlar-Hallaçlı road and Sayalar road. Moreover, existing secondary roads will be used to provide access to turbine locations and new roads will be opened and, if necessary, existing roads will be improved.

The nearest residential area to the Project site is Aydınlar Neighbourhood which is 1 km away from T14 and Yaylacık Village which is 1.7 km away from T15 and Binkılıç Quarter which is 5 km away from T11.

Google Earth view of the Licence Area and general layout of turbines and switchyard is given in Figure 2 and view of Energy Transmission Line in Figure 3. The Site Photographs are provided in the Appendix B. The Licence area was given by the Republic of Turkey Energy Market Regulatory Authority which is a permitting area that the Client can develop a project within that given boundary. Project area is determined in accordance with the project components (location of turbines, access roads and switchyard) established by the Client.

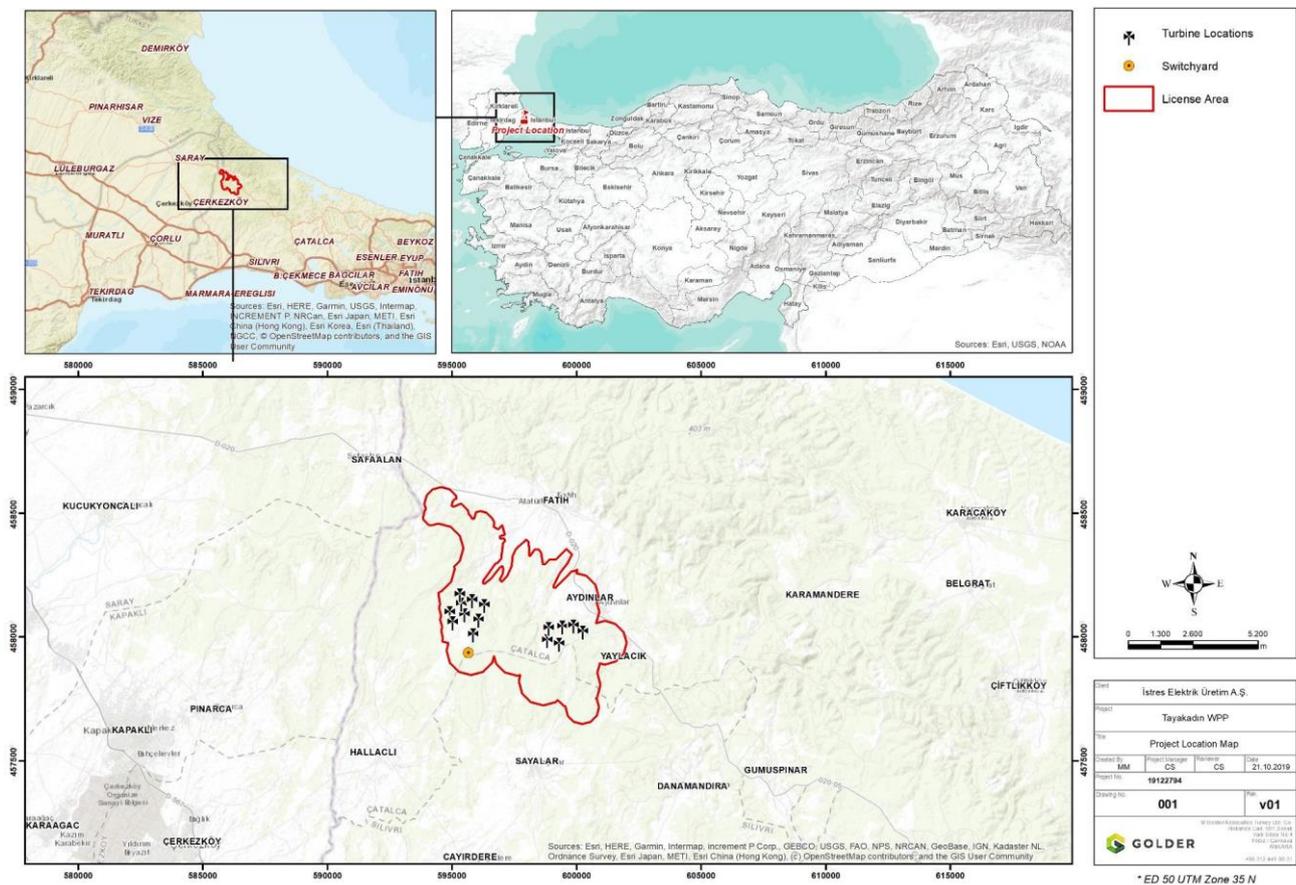


Figure 2: License Area and General Layout

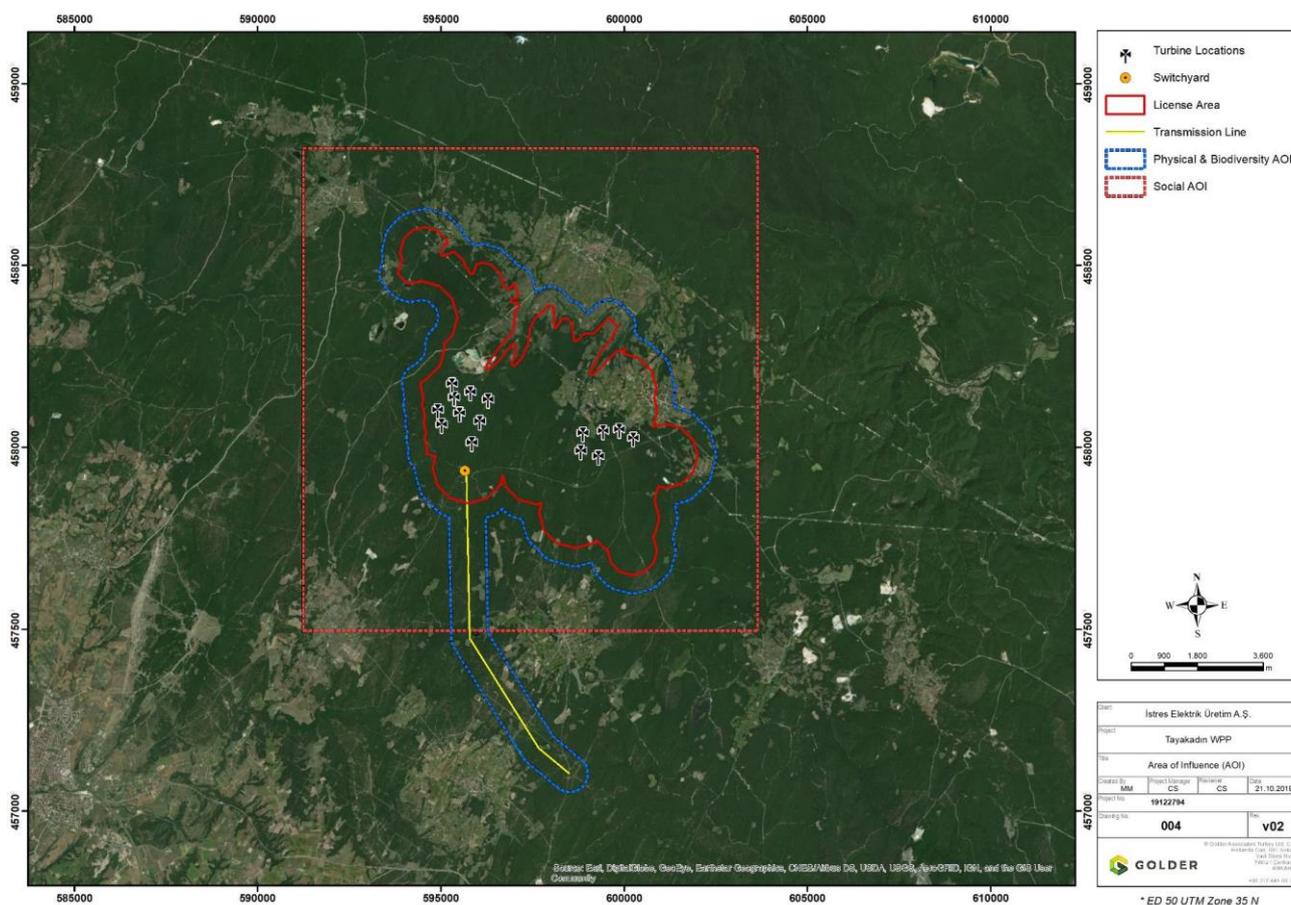


Figure 3: View of Energy Transmission Line

According to the information gathered from the Client and the interviewed people, majority of the Project area belongs to the Forestry premises and the rest (4 parcels in 2 turbine areas) is private plots. The Public Welfare Decision has been obtained from EMRA at 02.09.2019.

2.3 Renewable Energy Generation Capacity of the Project

The installed power of the Project has been designed as 51 MWm/50 MWe with total of 15 turbines; [(14 x (3.40 MWm/3.35 MWe) + 1 x (3.40 MWm/3.10 MWe)]. The energy generation license was obtained on 21.07.2011, with license number EÜ/3330-482011.

Project switchyard will be connected to 154 kV Gaziosmanpaşa WPP TM connection point via 9.252 km 154 kV high voltage ETL.

2.4 Project Description (Including Associated Facilities)

Tayakadin Wind Power Plant will consist of 15 turbines with the total capacity of 51 MWm/50 MWe. The model of the turbines will be GE 3.4-130 which is a three-bladed, upwind, horizontal-axis wind turbine with a rotor diameter of 130 meters. Technical specifications and performance data of the proposed turbine model is given in table below. Locally produced tower and blades will be used in the Project and the rest of the turbine parts will be supplied from Germany.

Approximately 1.9 km of new roads will be opened to provide access between the turbines and approximately 5.9 km of existing roads will be extended. The remaining roads are existing forest roads will be improved if necessary. Road widths are planned to be 6 m wide

Project switchyard will be connected to 154 kV Gaziosmanpaşa WPP TM connection point via 9.252 km 154 kV high voltage ETL. The route of the ETL has been determined by TEİAŞ. The approval letter from TEİAŞ was obtained at 25.09.2019.

Rotor

The regulation of the rotor speed is achieved by a combination of a blade pitch angle adjustment and generator/converter torque control. The rotor will spin in clockwise direction. The full blade pitch angle range is approximately 90 degrees which helps to accomplish aerodynamic braking of the rotor, thus reduces the rotor speed.

Blades

There will be three rotor blades on the GE 3.4-130 wind turbines. In order to optimize the noise emissions, it is possible to equip the rotor blades with Low-Noise-Trailing-Edges (LNTEs) at the pressure side of the blade's rear angle (below figure).



Figure 4: View of Rotor Blades

Blade Pitch Control System

The purpose the blade pitch control system is to regulate the speed of the turbine rotor when above rated wind speed. Independent back up is provided to drive each blade and shut down the wind turbine in case of a grid line outage or other fault. Blade pitch control system will be provided for all three blades.

Hub

Three rotor blades are connected to turbine main shaft by the hub and it directly mounted to the main shaft. It can be entered by one of the three hatches at the area close to the nacelle roof.

Gearbox

It is mounted on the wind turbine bedplate and designed to transmit torsional power between the low rpm turbine rotor and high rpm electric generator. The gearbox mounting is designed to reduce the vibration and noise transfer to the bedplate.

Bearings

The blade pitch bearing is designed to allow the blade to pitch about a span-side pitch axis.

Brake System

The blade pitch system is designed to act as the main braking system for the wind turbine.

Generator

Generator is mounted to the bedplate and designed to reduce vibration and noise transfer to the bedplate. It will be a doubly fed induction generator.

Gearbox/Generator Coupling

To protect the drive train from excessive torque loads, a special coupling including a torque limiting device is provided between the generator and gearbox output shaft.

Yaw System

A bearing that is located between the nacelle and tower facilitates yaw motion. The system contains an automatic yaw brake which engages when the yaw drive is not operating and prevents the yaw drives from being loaded due to the turbulent wind conditions.

Tower

The tower will be mounted on the top of a tubular steel tower (85 m, 110 m hub height). There will be; a door at the base of the tower for access, internal service platforms and interior lightning and ladder to access to the nacelle and also supports a fall arrest system.

Nacelle

It is the main component of the wind turbine generator. Access from the tower to the nacelle is through the bottom of the nacelle. Ventilation and illumination is provided. A hatch provides access to the blades and hub.

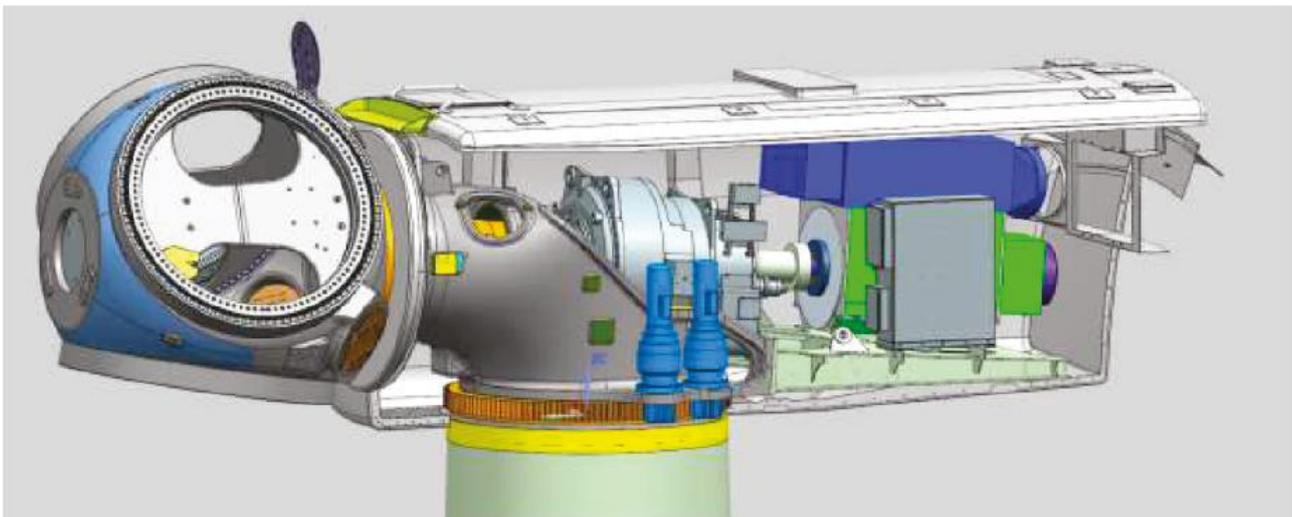


Figure 5: Wind Turbine Nacelle View with Hub Access Hatch Open

Wind Sensor and Lightning Hub

Wind sensor and lightning hub will be mounted on top of the nacelle housing. Access will be through the hatch in the nacelle.

Lightning Protection (According to IEC 61400-24 Level I)

Lightning protection will be mounted on each rotor blade.

Wind Turbine Control System

Wind turbine can be controlled locally. Control signals can also be sent from a remote computer via a Supervisory Control and Data Acquisition System (SCADA) with local lockout capability provided at the turbine controller. Emergency stop buttons will also be placed in the tower base for emergency cases.

Power Converter

The wind turbine uses a power converter system consisting of a converter on the rotor side, a DC intermediate circuit and a power inverter on the grid site.

Medium Voltage Transformer and Switch Gear

Medium voltage transformer and switch gear is used to connect each turbine to the collector

2.4.1 Construction Phase

The construction period of the Tayakadın WPP Project will consist of the following steps:

- Site preparation, mobilization and excavation works for turbines and access roads.
- Assembling of turbines
- Ground cabling

The construction period of the Tayakadın Wind Power Plant Project is planned to be 9 months. Approximately 1.9 km of new roads will be opened to provide access between the turbines and approximately 5.9 km of existing roads will be extended. The remaining roads are existing forest roads will be improved if necessary.

It is predicted that approximately 100 people will be employed during the construction phase.

2.4.2 Commissioning/Operation Phase

The Operation period of the Project is 49 years.

Estimated number of employees to be employed during the operation phase is 18 people.

The maintenance process for turbines can be divided in two by planned and unplanned. All planned maintenance works are carried out by the suppliers. On the other hand, unplanned maintenance are carried out instantaneous malfunctions. Planned maintenance are carried out between 3rd – 6th months, 12th – 24th months and 48th months.

2.4.3 Decommissioning/Closure Phase

Decommissioning/closure will not occur for at least 49 years. After the completion of this period, turbines, machineries and equipment will be removed and the used land will be reclaimed. Vegetation of restored areas will be similar to surrounding natural vegetation.

3.0 MANAGEMENT OF ENVIRONMENTAL AND SOCIAL ISSUES

For the management of environmental and social issues, following mitigation measures will be implemented in the construction and operation phases of the Project.

Table 3: Summary of Impact Assessment Results and Project Management Strategy

Main features of Current Situation	Potential impacts	Mitigation Measures
<i>Geology and Seismology</i>		
The project area is in 1 st degree earthquake zone.	Changes in the local morphology	Compliance of design with the provisions of the "Regulation on the Buildings to be Constructed on Earthquake Zones" (06.03.2007 O.G. No: 26454).
<i>Soils</i>		
The Project Area is considered as Greenfield. Geological and geotechnical investigations were carried out at the Project Area. Based on these investigation CLAY with some sand has been observed as the dominant formations.	Topsoil and lower soil removal Pollutant emissions to the soil Occupation of land	Removed topsoil will be stored in an appropriate area in the Project Area, to be used for landscaping after the construction. Prevention of leaks and spills. Spill response arrangements.
<i>Hydrogeology and Groundwater Quality</i>		
The regional groundwater level is deeper than 15 m and no major pollution risk is foreseen.	Hydrogeological change Groundwater pollution	Prevention of leaks and spills.
<i>Hydrology and Surface Water Quality</i>		
According to Geotechnical Report: there are no flowing or dry streams observed within the Study Area. Project is located in the medium and long-distance protection area of the Karamandere Dam Basin. There is a naturally occurring wetland -which is not known about seasonal or not- in the dense forest in the Project Area. The closest turbine from the wetland is T8 with the distance of 450 m. There are no large capacity rivers within the boundaries of İstanbul. However, there are streams, which supply drinking and potable water, that feed into	Surface water pollution. Sediment pollution.	Engineering and design practices will be in place for the collection and disposal of wastewater from all sources during construction and operation of the project. There will not be any construction activity occurred and transportation route across the wetland. This wetland will not be used as a water resource during the construction and operation phase.

Main features of Current Situation	Potential impacts	Mitigation Measures
the lakes and ponds or pour into the sea.		
Air Quality		
PM10, settled dust and SO ₂ &NO ₂ measurement values are in compliance with Project standards.	Calculations on the estimated amount of air emissions during construction indicate no significant contribution to the ambient air quality.	Measures will be in place to minimise the air emissions during construction.
Noise		
Ambient noise levels are in compliant with the standards. Except from N-3, all night time noise values slightly exceed the night time IFC noise limit of 45 dBA.	Noise modelling shows the construction activities will not create additional noise values higher than the regulatory limit. For the operation phase, all values comply with both national and international standards according to the noise modelling. Therefore operation of turbines will not have any adverse effect on the sensitive locations.	Engineering controls. There will not be any construction activities during the night time. During the operation, a monitoring programme will be in place.
Traffic		
To provide the access to the turbine locations, approximately 1.9 km of new roads will be opened and approximately 5.9 km of existing roads will be extended.	During construction phase impacts will be mainly associated with the increased road traffic.	Scheduling of traffic to avoid peak hours on local roads. Adopting traffic control and operations devices and emphasizing safety aspects among project drivers. Regular maintenance of vehicles should be undertaken to ensure that vehicles are safe and emissions and noise are minimized.
Visual Impact		
<p>The possible visual impact of the project during the operation phase will be the presence and view of the vertical structures and rotating blades. The visual effect of the proposed project are assessed by using ZVI (Zones of Visual Influence) tool of the windPRO software program.</p> <p>Visual impact is a subjective issue, a significant number of people in Turkey, who has been interact with the wind power plants, thinks that wind farms are clean energy and view of the towers as a symbols of modern and civilized living. According to the preliminary social survey conducted for the project during the site visit, there is not any negative opinion for potential visual of the turbines.</p>		

Main features of Current Situation	Potential impacts	Mitigation Measures
Shadow Flicker		
<p>Shadow flicker is one of the most important effect of the wind turbines to the sensitive receptors located within the close vicinity of the project area.</p> <p>A specific software program “windPRO” is used for the assessment of the shadow flicker. Shadow is the windPRO calculation module that calculates how often and at which times of the day a specific neighbour or area will be affected by shadows generated by one or more wind turbines.</p> <p>According to the model results, point B (The closest settlement in Aydınlar Quarter to the nearest turbine (T14)) will have the maximum hours per year in a year which is approximately 27hours. This value is under the limit value of 30 hours per year.</p>		
Biological Components		
<p>As result of field work conducted in June 27th and 28th, 2019 information on flora and fauna species are presented in Section 7.2.4, 7.2.5 and in Appendix F.</p> <p>Based on current knowledge, no population or individual of <i>Centaurea hermannii</i> (EN) is expected to be directly or indirectly impacted by the Project in accordance with the mitigation measures presented in Section 8.2.4.1.1.</p> <p>Therefore, there is no need of offsetting for the Project.</p>		
Social Components		
<p>The settlements located in the vicinity of project are determined as Aydınlar Village and Binkılıç Quarter (Atatürk and Fatih Neighbourhoods).</p> <p>The main livelihood activity in these affected settlements are animal husbandry.</p> <p>There are private parcels are located in Atatürk Neighbourhood.</p> <p>Plots of two turbines (T1 and T2) in 4 parcels belong to private premises, Energy Market Regulatory Authority (EMRA) Public Welfare decision is taken for these parcels. The expropriation process is still in progress. Negotiation process with landowners will be initiated by the Project Owner, accordingly. Four parcels belong to three landowners. The lands</p>	<p>The need of workforce that can be considered a positive impact.</p> <p>Increased traffic and transportation requirements.</p> <p>Community health and safety concerns in relation to Project construction and operation.</p>	<p>A continuous stakeholder engagement process and grievance mechanism will be in place</p> <ul style="list-style-type: none"> to exchange information on the project with the local community and other stakeholder and to record and respond any complaints and concerns raised by the local community members and other stakeholders <p>Maximising of local employment and procurement in order to increase the positive socio-economic impact of the project on the local community.</p> <p>Coordination with the local community for the arrangements of accommodation and establishment of the construction camps.</p> <p>Majority of the project area belongs to the Forestry premises and the rest (4 immovables in 2 turbine areas) is private plots. These plots are planned to be expropriated. The Public Welfare</p>

Main features of Current Situation	Potential impacts	Mitigation Measures
are identified as "idle" and not being actively used for any purpose.		Decision has been obtained from EMRA at 02.09.2019.

The Environmental and Social Management System (ESMS) is required to ensure that the Project:

- complies with all applicable Turkish legislation as well as relevant IFC guidelines provided in ESIA report;
- implements Good International Industry Practices (GIIP) to minimize potential environmental and social impacts during the construction, operation and decommissioning phases;
- is executed in compliance with the commitments addressed in this report for the minimization of potential environmental and social impacts;
- works in accordance with high standards of safety;
- cares for the protection of own employees and public;
- promotes its policies through training, supervision, regular reviews and consultation;
- generates local socio-economic benefits by using local and regional labour forces;
- engages and communicates with the local community and other stakeholders through a stakeholder engagement programme.

The minimum requirements of an ESMS have been defined and will be established for the project in order to mitigate the risks associated with;

- Environmental aspects
- Labour Issues
- Community Health & Safety aspects
- Stakeholder management and social aspects
- Waste Management

A basic framework of ESMS has been described at this stage of the Project for the general management issues and will be further developed as the project progresses.

As a result of the Environmental and Social Assessment Study the following conclusions have been driven:

- 1) Continuous stakeholder engagement is necessary manage the social risks of the project.
- 2) According to the shadow flicker model results, point B (The closest settlement in Aydınlar Quarter to the nearest turbine (T14)) will have the maximum hours per year in a year which is approximately 27hours. This value is under the limit value of 30 hours per year.
- 3) During the operation phase of the project a noise monitoring programme will be in place for the facility to be in compliance with regulatory requirements applicable to the project.
- 4) The project will develop an Environmental and Social Management System in line with the minimum requirements that are defined as part of the ESIA study.

- 5) The assessment in accordance with the WB ESS6, IFC PS 6 is not completed within the scope of this report since the baseline field studies are currently ongoing and have not yet been finalized.

4.0 STAKEHOLDER ENGAGEMENT

A specific Stakeholder Engagement Plan has been prepared for the Project.

As a part of the Environmental Impact Assessment (EIA) process, a public participation meeting was held on 13th of October 2015 in Aydınlar Village Wedding Hall in Çatalca District of Istanbul Province to inform the public about the investment, to get their opinions and suggestions. Before the public participation meeting, announcement texts and brochures describing the Project were prepared. The meeting dates were published 10 days before the meeting date by using local and national newspapers.

The meeting announcements were forwarded to the relevant public institutions and organizations through the Istanbul Provincial Directorate of Environment and Urbanization. In addition, Mukhtars were informed the local people about the meeting details.

Local people and public institutions have participated in the Public Participation Meeting and Project brochures were distributed to the participants. The national EIA consultant provided the information about the construction works, national legal requirements to protect the environment, possible impacts and the mitigation measures that will be applied during the construction and operation phases of the Project. During the public participation meeting held on 13.10.2015, the following issues were addressed.

- Noise impact,
- Possible radiation impact, and
- Employment opportunities.

As part of the ESIA studies, data collection for social impact assessment (SIA) studies were conducted by Golder on 9th-10th of July, 2019. As the second step more detailed consultation meetings were held during for the baseline data collection in November, 2019. Several methods were used to collect social baseline information. The following tools were used during the consultation activities.

- Community Level Interviews with Mukhtars,
- Focus Group Discussions with villagers,
- Interviews with the affected people from the land acquisition,
- Questionnaire with the Company representative.

According to the outputs of the meetings;

- The project is not expected to create impact on the population change, intrusion impacts and community health and safety impacts.
- The local employment opportunities of the Project are expected to occur during the construction period of the Project which will contribute the positive impact.
- The land acquisition of the titled lands is not expected to create any livelihood impact since the land are not being used for the agricultural purposes.

İstres takes the role for project development and will manage stakeholder engagement. Their primary tasks are to coordinate stakeholder engagement activities and to support the specialist consultants during their

engagement during the baseline studies and impact assessment. Key specialist consultants are Golder Associates, responsible for international ESIA report.

While many İstres staff interact with external stakeholders, İstres will take the role for documenting these interactions, and in particular, recording key meetings and consistent issues. The following are core tasks of İstres:

- Incorporate all stakeholder engagement activities into the overall environmental and social management systems;
- Develop an internal system to communicate progress and results of stakeholder engagement to the senior management and staff members;
- Coordination of all verbal and written communication from stakeholders, particularly comments solicited from formal grievances;
- Management and coordination of external messages,
- Frequent coordination with external consultants and contractors to provide technical, environmental and other studies are summarised appropriately for all stakeholders;

Contact details to liaise with İstres are indicated below:

Address: Altunizade Mahallesi Kısıklı Caddesi No:4/A Kat:2 Üsküdar/İstanbul

Phone Number: +90 216 554 54 00

Contact Person: Uğur Küçükbayrak

Email Address: finaenerji@finaenerji.com

Corporate website: <https://www.finaenerji.com/>

5.0 GRIEVANCE MECHANISM

A Grievance Mechanism has been set up for communities and individuals to formally communicate their concerns, complaints and grievances to the company and facilitate resolutions that are mutually acceptable by the parties.

The Grievance Mechanism is a management procedure through which communities and individuals affected by İstres' activities can formally communicate their concerns, complaints and grievances to the company and facilitate resolutions that are mutually acceptable by the parties, within a reasonable timeframe. The grievance mechanism is a management tool designed to help address stakeholder concerns and facilitate a trustworthy and constructive relationship.

A Grievance Mechanism is followed up by İstres to manage the community and employee concerns through active and transparent engagement with stakeholders. As part of this mechanism:

- a direct line will be set up and a Complaint Register Form ("CRF") (an example register form is presented below) will be prepared for the complaints

Management of the complaints will be followed up through the system specified below.

- Receiving and registering of the complaints – 2 business days
- Assessment and investigation of the complaint – 10 business days
- Resolution of the complaint
- Response to the complainant within – 30 business days

- Close out of the complaint

Grievances may be submitted in writing or verbally through staff of the Project to Istres that will put the grievance in writing for management purposes.

Written grievances may be submitted with the CRP (or by including the following information in a letter or e-mail:

- Name;
- Organisation and position, if relevant;
- Address;
- Telephone/Fax and e-mail;
- Most effective means to send a response; and
- Details of the grievance (any important details; date of the incident, location, etc.)

Table 4: Complaint Register Form

Information about the complainant		
Name and Surname:	Only for internal use: How is the complaint made? 1. In person 2. By phone 3. By mail 4. By e-mail 5. Other (specify).....	
Date: ___/___/_____		
Address		
Phone		
E-mail		
Name and Surname of the person taking the complaint	Date of complaint and signature:	
DETAILS OF COMPLAINT:		
<ul style="list-style-type: none"> • Case for one time (date of problem/complaint • Does the problem occur more than one? <ul style="list-style-type: none"> <input type="checkbox"/> Yes, (how many times?.....) <input type="checkbox"/> No • Does the problem/complaint continue? (If “Yes”, provide details): 		
Only for internal usage: Record and Respond		
Complaint reference number:	Date of complaint log:	
Name of personnel recording the complaint	Copy transfer: <ul style="list-style-type: none"> • Relevant unit • Other (specify)..... 	
Required action:		
Only for internal usage: Status of compliant		
	Date:	Signature:
Complaint is closed by:		

Signature Page

Golder Associates (Turkey) Ltd. ŞTI

İlgin Atalar
Environmental Engineer/HS Leader

Caner Şahin
Project Manager

IA/CS

Registered in Turkey Registration No. 53/3069

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