



**Gold Standard**  
for the Global Goals

TEMPLATE

# KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.2**

RELATED SUPPORT

**- TEMPLATE GUIDE Key Project Information & Project Design Document v.1.2**

This document contains the following Sections

SECTION A-Description of project

SECTION B - Application of approved Gold Standard Methodology (ies) and/or demonstration of SDG Contributions

SECTION C – Duration and crediting period

SECTION D – Summary of Safeguarding Principles and Gender Sensitive Assessment

SECTION E – Outcome of Stakeholder Consultations

Appendix 1 – Safeguarding Principles Assessment (mandatory)

Appendix 2-Contact information of Project participants (mandatory)

Appendix 3- LUF Additional Information (project specific)

Appendix 3- Summary of Approved Design Changes (project specific)

**Gold Standard**

*Climate Security and Sustainable Development*

**Gold Standard**

## KEY PROJECT INFORMATION

<b>GS ID of Project</b>	GS576
<b>Title of Project</b>	Kuyucak 25.6 MW Wind Farm Project, Turkey
<b>Time of First Submission Date</b>	02/05/2022
<b>Date of Design Certification</b>	15/04/2011 CP2 Renewal Design Review 02/06/2022
<b>Version number of the PDD</b>	0.4
<b>Completion date of version</b>	26/09/2022
<b>Project Developer</b>	Alize Enerji Elektrik Üretim A.Ş. Çağla Balcı Eriş-Rüzgar Danışmanlık
<b>Project Representative</b>	Çağla Balcı Eriş-Rüzgar Danışmanlık
<b>Project Participants and any communities involved</b>	Alize Enerji Elektrik Üretim A.Ş.-Çağla Balcı Eriş-Rüzgar Danışmanlık
<b>Host Country (ies)</b>	Turkey
<b>Activity Requirements applied</b>	<input type="checkbox"/> Community Services Activities <input checked="" type="checkbox"/> Renewable Energy Activities (GS4GG) <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
<b>Scale of the project activity</b>	<input type="checkbox"/> Micro scale <input type="checkbox"/> Small Scale <input checked="" type="checkbox"/> Large Scale
<b>Other Requirements applied</b>	-
<b>Methodology (ies) applied and version number</b>	Sectoral Scope 1, category "Energy industries (renewable - / non-renewable sources)" and ACM0002: Grid connected electricity generation from renewable electricity generation - Version 20.0
<b>Product Requirements applied</b>	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A
<b>Project Cycle:</b>	<input checked="" type="checkbox"/> Regular <input type="checkbox"/> Retroactive

**Table 1 – Estimated Sustainable Development Contribution**

Sustainable Development Goals Targeted	SDG Impact (defined in B.6.)	Estimated Annual Average	Units or Products
13 Climate Action (mandatory)	Emission Reduction	47,971tCO2/year	VERs
7 Affordable and Clean Energy	Generating Clean Energy	74,006.983MWh	
8 Decent Work and Economic Growth	Employment	8 people	

## SECTION A. DESCRIPTION OF PROJECT

### A.1 Purpose and general description of project

The Kuyucak 25.6 MW Wind Farm Project, Turkey, hereafter referred to as the project, involves a grid-connected onshore wind farm project in the Demirtaş village, Kırkağaç-Kuyucak district of Manisa Province. The project consists of 12 wind turbines with an installed capacity of 2000 kW (E70) each and 2 wind turbines with an installed 800 kW (E44) each. With a total installed power generation capacity of 25.6 MW, the project is estimated to supply grid as 112,763 MWh and 71,578 tCO2-eq per annum and which total to reduction of 501,047 tCO2-eq over these first 7-year crediting period according to registered PDD.

The Project aims to generate electricity from wind energy and feed it to the national electricity grid.

The project is estimated to supply grid as 74,006.983 MWh<sup>1</sup> and expected annual emission reductions of the project is approximately 47,971 tCO2/year during for this 2nd crediting period.

The Project Proponent has been granted a 49-year generation license by the Turkish Energy Market Regulatory Authority for the proposed Project under the provisions of Law No. 4628 governing the electricity market in the Republic of Turkey.

The purpose of the project activity is to produce renewable electricity using wind as the power source and to contribute to Turkey is growing electricity demand through a sustainable and low carbon technology. The project displaces the same amount of electricity generated by the grid dominated with fossil fired power plants.

The project activity produces positive environmental and economic benefits through the following aspects:

Displacing the electricity generated by fossil fuel fired power plants by utilising the renewable resources so as to avoid environmental pollution and GHG emissions,

<sup>1</sup> The average value of Alize WPP's electricity generation between 2011 and 2021. (11 years). The related excel file has been provided to the VVB

Contributing the economic development of the region by providing sustainable energy resources,  
Increasing the income and local standard of living by providing job opportunities for the local people.  
Production of pillar and other equipment in Turkey indirectly cause the know-how transfer and empower the local industry.

The project area belongs to the Ministry of Environment and the proposed project activity has been the installation of a grid-connected renewable power plant/unit. In the absence of the project activity, the electrical energy would have been delivered to the grid through a mix of existing power generation resources.

The project's capacity was increased to 50.1 MW in 2017 as a capacity extension. Accordingly, PP can use only 25.6 MW capacity's electricity generation for the purpose of emission reduction calculations. For this, the ratio between the electricity generations of 25.6 MW and of 50.1 MW capacities; namely, the ratio between the actual electricity generation of the initial (existing) capacity against the electricity generation of the total capacity should be calculated:

The net electricity supplied by the Wind Farm (including the existing and additional capacity) to the national grid is measured by TEİAŞ metering devices. As well, the electricity generation of each wind energy converter (wind turbine) under Kuyucak 25.6 MW Wind Farm Project (the existing capacity and added capacity) has been measured continuously with a SCADA system. Using the SCADA data, the total amount of electricity generated from the existing capacity under the proposed project activity and the added capacity has been measured on monthly basis and has been used to calculate the ratio of electricity generation. The PP can use the ratio for monitoring. By applying this ratio to net electricity amount supplied to the national grid, the emission reduction project GS438 under the project activity will be calculated.

Formulation: The following equation will be used to calculate the the quantity of net electricity generation supplied to the grid by the project plant that has been added under the project activity:

$$EG_{PJ-ADD,y} = EG_{facility,y} * EG_{RATIO,y}$$

Where:

$EG_{PJ-ADD,y}$  = Quantity of net electricity generation supplied to the grid in year y by the project plant/units that has been used under the 25.6 MW project activity (MWh/yr)

$EG_{facility,y}$  =Quantity of total net electricity generation supplied to the grid in year y by the facility [the Project Activity's existing capacity (50.1 MW) and capacity addition (24.5MW)] and measured by the TEİAŞ meters (MWh/yr)

$EG_{RATIO,y}$ =Ratio between electricity generation of the plans/units of the Project Activity (25.6MW) and the total gross generation of the 50.1MW facility in year y (%) calculated as per SCADA.

### **A.1.1. Eligibility of the project under Gold Standard**

The project activity meets the eligibility criteria of GS4GG Principles & Requirements document as described below.

- The project applies methodology ACM0002 Version 20.0, which is an approved methodology under Gold Standard.
- The project type is wind which is an eligible project type as it is in accordance with Eligible Project Types & Scope under Renewable Energy Activity Requirements.
- The project activity results in displacement of electricity from thermal power stations while contributing to sustainable development of Turkey. Hence, the project contributes to the Gold Standard vision and mission.
- Wind is an approved project type and does not require approval from Gold Standard.
- This project activity is not associated with geo-engineering or energy generated from fossil fuel or nuclear, fossil fuel switch, nor does it enhance or prolongs such energy generation.

General Eligibility Criteria under Renewable Energy Activity Requirements

Project Type: Wind, As discussed above, the project type is eligible.

Project Location: The project is in Demirtaş village, Kırkağaç-Kuyucak district of Manisa province, Turkey. Thus, the project is eligible.

Project scale: The project activity is a 25.6 MWm/25.6 MWe Wind power plant and thus qualifies under large scale projects.

### **A.1.2. Legal ownership of products generated by the project and legal rights to alter use of resources required to service the project**

The project participant is Alize Enerji Elektrik Üretim A.Ş. is the legal owner of the project and has the legal rights for the credits.

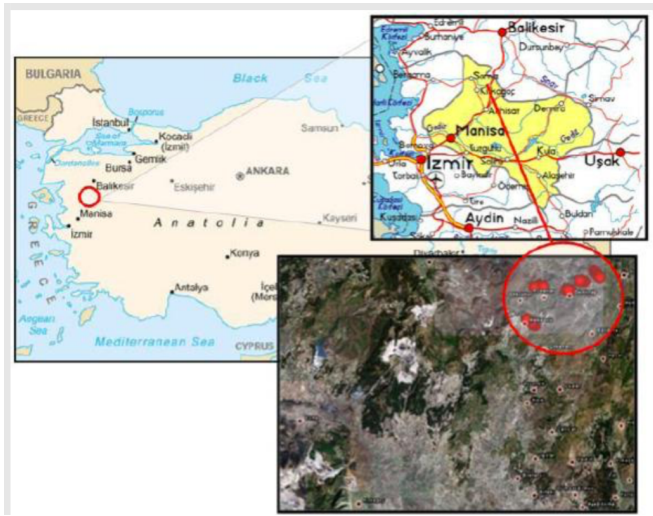
Rüzgar Danışmanlık act as carbon consultants for the Project. Contact details are provided in Annex 1.

## A.2 Location of project

The Kuyucak 25.6 MW Wind Farm Project, Turkey is located in Demirtaş village, Kırkağaç-Kuyucak district of Manisa province, Marmara Region. The geographical location of the Project covers an area around 39° 17' N, 27° 53' E approximately.

Please see below the maps showing the location of the project activity in Turkey

Figure 1 The location of the project activity in Turkey



The nearest place is Demirtaş village 1.5 km from Kuyucak 25.6 MW Wind Farm Project.

Table 2 Turbine Coordinates<sup>2</sup>

<sup>2</sup> [Generation License](#)

Turbine Nr	E	N	E	N
	UTM Coordinates		Longitude / Latitude	
T1	580524	4351573	27° 56' 02"	39° 18' 35"
T2	580612	4351382	27° 56' 06"	39° 18' 29"
T3	581936	4352619	27° 57' 02"	39° 18' 09"
T4	582033	4352407	27° 57' 05"	39° 19' 02"
T5	582174	4352226	27° 57' 12"	39° 18' 56"
T6	582315	4352010	27° 57' 17"	39° 18' 49"
T7	582446	4351920	27° 57' 23"	39° 18' 46"
T8	575661	4347256	27° 52' 38"	39° 16' 17"
T9	579189	4350599	27° 55' 06"	39° 18' 04"
T10	579009	4350576	27° 54' 59"	39° 18' 03"
T11	578880	4350549	27° 54' 53"	39° 18' 03"
T12	575551	4347387	27° 52' 33"	39° 16' 21"
T13	575434	4347540	27° 52' 28"	39° 16' 26"
T14	575230	4347589	27° 52' 20"	39° 16' 28"

### A.3 Technologies and/or measures

The Project Activity involves the generation of renewable energy from wind. It thereby displaces grid electricity that is partly generated from fossil fuel fired power plants. The wind-driven blades are connected to an electricity generator, which produces electrical energy and supplies it to the grid without storage. Within the scope of the project, all precautions have been taken for the environment during the design phase and the project has been implemented in line with the environmental law and related regulations.

Enercon, a German turbine manufacturer, has been selected as technology provider due to the quality of its products in terms of high reliability, grid friendliness, low maintenance requirements and low noise levels. The turbines have been delivered from Germany to the project site. Blades and masts have been produced in Turkey.

The Project have been composed of gearless, variable speed, variable pitch control wind turbines with a total installed capacity of 25.6 MW. The Project includes 12 units of E70 turbines with an output of 2000 kW and a rotor diameter of 71 m and 2 E44 unit with an output of 800 kW.

This Kuyucak WPP has been connected to the 154 kV high-voltage transmission lines to the Soma transformer station. The metering has been done at substation before electricity is fed into the grid.

The Project reduces greenhouse gas emissions by displacing electricity from grid connected fossil fuel fired power plants, thereby contributing to climate change mitigation along with other environmental benefits. The lifetime of the project activity has been supposed as 25 years.

The main equipment used in the Project is wind turbines with the following specifications.

Table 3: Technical specifications of the Enercon E44- E70 turbines<sup>3</sup>

Parameter	Value
Rated Power	800 kW-E 44
Rotor Diameter	44 m
Number of blades	3
Swept Area	1,521 m <sup>2</sup>
Rotational speed	14.0 - 33.1 rpm
Cut in wind speed	2.5 m/s
Cut out wind speed	34 m/s
Remote monitoring:	Enercon SCADA

Parameter	Value
Rated Power	2,000 kW-E 70
Rotor Diameter	71 m
Number of blades	3
Swept Area	3,959 m <sup>2</sup>
Rotational speed	6.0 - 20.5 rpm
Cut in wind speed	2.5 m/s
Cut out wind speed	34 m/s
Remote monitoring	Enercon SCADA

The amount of electricity generated by the project is not influenced by factors outside the project boundary such as other power plants or demand for electricity. Rather, the governing factor is the wind speed at the project site.

PLF in case of wind energy has been calculated as follows: 1. In case of past period: The data such as actual power generated in a year and the capacity of a particular wind mill will determine the PLF.

Plant Load Factor is the ratio of the actual output of a power plant over a period of time and its output if it had operated a full capacity of that time period.

Plant Load Factor = Gross Generation / (Installed Capacity \* Number of Hours) For this project, plant load factor is %33.00 as below:

$$PLF = 74,006.983 / (25,600 * 8,760) * 100 = \%33.00$$

All requirements and specifications of the meters have been done according to Communique on the counter to be used in the Electricity Market by Energy Market Regulatory Authority on 22/04/2011.

<sup>3</sup> <https://en.wind-turbine-models.com/turbines/827-enercon-e-70-e4-2.000>  
[https://www.enercon.de/fileadmin/Redakteur/Medien-Portal/broschueren/EC\\_Datenblaetter\\_WEA\\_en\\_082019.pdf](https://www.enercon.de/fileadmin/Redakteur/Medien-Portal/broschueren/EC_Datenblaetter_WEA_en_082019.pdf)

#### A.4 Scale of the project

This is large scale project.

#### A.5 Funding sources of project

The project activity does not have any public funding or Official Development Assistance (ODA) funding.

### SECTION B. APPLICATION OF APPROVED GOLD STANDARD METHODOLOGY (IES) AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

#### B.1. Reference of approved methodology (ies)

The project applies CDM-EB approved "ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0"<sup>4</sup>

The methodology refers to:

- "Tool for the demonstration and assessment of additionality", Version 07.0.<sup>5</sup>
- "Combined tool to identify the baseline scenario and demonstrate additionality", Version 07.0<sup>6</sup>
- "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion", Version 03.0<sup>7</sup>
- "Tool to calculate the emission factor for an electricity system", Version 07.0.<sup>8</sup>
- "Tool to determine the remaining lifetime of equipment", Version 01<sup>9</sup>
- Tool 11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" Version 3.0.1<sup>10</sup>

#### B.2. Applicability of methodology (ies)

- The methodology ACM0002 "Large scale Consolidated baseline methodology for grid-connected electricity generation from renewable sources" is applicable to grid-connected renewable power generation project activities that a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield); b) involve a capacity addition c) involve a retrofit of (an) existing plant(s); or d) involve a replacement of (an) existing plant(s).
- Since the proposed project activity install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield), ACM0002 "Large scale Consolidated baseline methodology

---

4

[https://cdm.unfccc.int/filestorage/A/G/0/AG07ZJQ3EXD42LT5YV9HR16M8KINPO/EB105\\_repan03\\_ACM0002.pdf?t=cG58cXR0YmduYm9kaW9kKQ77zmZZiIlanUw](https://cdm.unfccc.int/filestorage/A/G/0/AG07ZJQ3EXD42LT5YV9HR16M8KINPO/EB105_repan03_ACM0002.pdf?t=cG58cXR0YmduYm9kaW9kKQ77zmZZiIlanUw)

<sup>5</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

<sup>6</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-02-v7.0.pdf>

<sup>7</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-03-v3.pdf>

<sup>8</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

<sup>9</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-10-v1.pdf>

<sup>10</sup> <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-11-v3.0.1.pdf>

for grid-connected electricity generation from renewable sources " version 20.0. is applicable.

The choice of methodology ACM0002/Version 20.0 is justified as the proposed project activity meets relevant applicability criteria

The applicability criteria and conditions may be seen in more detail as below:

Table 4: Applicability of ACM0002 Version 20.0

Applicability Condition	Justification
<p>This methodology is applicable to project activities that:</p> <ul style="list-style-type: none"> <li>a) Install a Greenfield power plant;</li> <li>b) Involve a capacity addition to (an) existing plant(s);</li> <li>c) Involve a retrofit of (an) existing operating plants/units;</li> <li>d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or</li> <li>e) Involve a replacement of (an) existing plant(s)/unit(s).</li> </ul>	<p>The project activity involves installation of a power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. The proposed project activity is a greenfield project activity.<sup>11</sup></p>
<p>The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, wind power plant/unit, wave power plant/unit or tidal power plant/unit.</p>	<p>The project activity is the installation of 14 wind turbine generators (WTGs). Hence, meets this criterion.</p>
<p>In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, wind, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section,</p>	<p>The project activity does not involve capacity additions, retrofits, rehabilitations or replacements. Hence this criterion is not applicable to the project activity.</p>

<sup>11</sup> EMRA Generation License

<p>and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</p>	
<p>In case of hydro power plants, one of the following conditions shall apply:</p> <p>a) The project activity is implemented in an existing reservoir, with no change in the volume of reservoir;</p> <p>b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7), is greater than 4 W/m<sup>2</sup>; or</p> <p>(c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m<sup>2</sup>; or</p> <p>(d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m<sup>2</sup>, all of the following conditions shall apply:</p> <p>(i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m<sup>2</sup>;</p> <p>(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</p> <p>(iii) Installed capacity of the power plant(s) with power density lower than or equal to</p>	<p>This condition is not applicable to the project activity as it does not involve the installation of a hydro power plant.<sup>12</sup></p>

<sup>12</sup> The Generation License for 49 years obtained for WPP from Electricity Market Regulation Authority (EMRA)

<p>4 W/m<sup>2</sup> shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.</p>	
<p>In the case of integrated hydro power projects, project proponent shall:</p> <p>(a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or</p> <p>(b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.</p>	<p>The project activity is not a hydro power plant. Hence this applicability criterion is not relevant to the project activity.</p>
<p>The methodology is not applicable to:</p> <p>(a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;</p> <p>(b) Biomass fired power plants/units</p>	<p>Project activity does not involve:</p> <ul style="list-style-type: none"> <li>• Switching from fossil fuels to renewable energy sources at the site of the project activity.</li> <li>• Biomass fired plants.</li> </ul> <p>Hence this criterion is not applicable.</p>

In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance."	The project is not a retrofit, rehabilitations, replacements or capacity addition; hence this applicability criterion is not relevant.
In addition, the applicability conditions included in the tools referred to above apply.	Applicability conditions of the applied tool are justified.

From the above it is concluded that the project activity meets all the applicability conditions of the methodology ACM0002 version 20.0 "Grid connected electricity generation from renewable sources".

The project activity also meets the following applicability conditions of "Tool to calculate the emission factor for an electricity system".

Applicability Conditions of "Tool to Calculate The Emission Factor For an Electricity System" for Kuyucak 25.6 Wind Farm Project as follow :

SI No	Applicability condition	Applicability to this project activity
1	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	The project activity substitutes grid electricity by supplying renewable power to grid. Hence this criterion is applicable.
2	In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	Project electricity system is not located in an Annex I country.

The project activity also meets the applicability conditions given in "Tool for the demonstration and assessment of additionality".

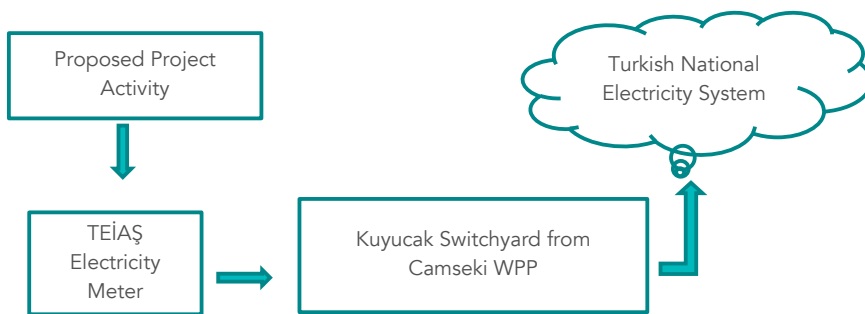
The project activity also meets the applicability conditions given in "Tool to determine the remaining lifetime of equipment" This tool is used to determine the remaining lifetime of baseline or project equipment. Average lifetime of turbines is assumed as 25 years.

Other tools mentioned in the methodology are not applicable for this project activity

### B.3. Project boundary

The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system. The greenhouse gases and emission sources are defined for the project activity and the baseline scenario. As a result, the project boundary for Kuyucak 25.6 MW Wind Farm Project, Turkey is as demonstrated in the figure below:

Figure 2: Project Boundary



In addition, please see the justification of the given project boundary in the table below:

Table 5: The greenhouse gases and emission sources

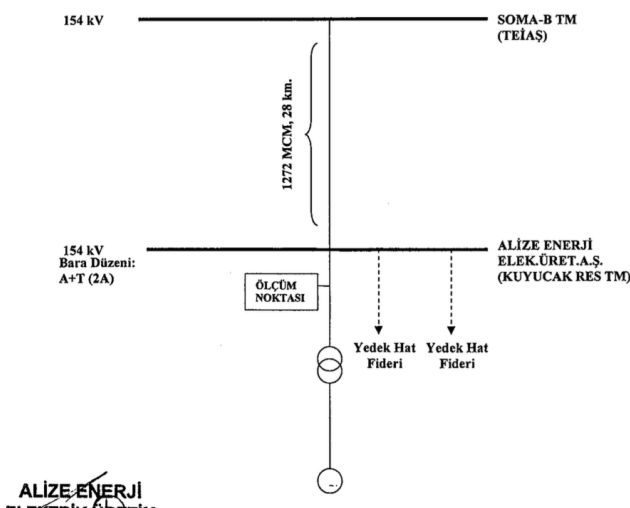
Source	GHGs	Included?	Justification/Explanation	
Baseline scenario	CO <sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are replaced due to the project activity	CH <sub>4</sub>	No	The major source of emissions in the baseline
		N <sub>2</sub> O	No	The minor emission source in the baseline.
		CO <sub>2</sub>	Yes	Main emission source. The dominant emissions from power plants are in the form of CO <sub>2</sub> , therefore CO <sub>2</sub> emissions from fossil fuel fired power plants connected to the grid is considered in baseline calculations.
Project	Construction and operation	CO <sub>2</sub>	No	Minor emission source. The project activity has a diesel generator, however the use of fossil fuels for the back up or emergency purposes (e.g. diesel
		CH <sub>4</sub>	No	
		N <sub>2</sub> O	No	

	of the project activity		generators) can be neglected as per the applicable methodology. As suggested by the baseline methodology, project emissions (PEy) are assumed to be 0 and it is not considered
--	-------------------------	--	--

Potential leakage emissions in the context of power sector projects are emissions that arise from the project activities such as power plant construction, fuel handling and land inundation. According to ACM0002 / Version 20.0, such emissions do not need to be taken into account.

The following figure represents the line diagram of the project activity:

Figure 3 Line Diagram of Kuyucak 25.6 MW Wind Farm Project



The scheme shows the connection points of Kuyucak 25.6 MW Wind Farm Project with the national grid. The wind farm is connected to Soma-B transformer station on 154 kV high voltage level. Two electricity meters are installed at Kuyucak 25.6 Wind Farm project. These meters are working in parallel.

#### B.4. Establishment and description of baseline scenario

The project applies for a renewal of the crediting period under the requirements of The Gold Standard Foundation so the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period", Version 03.0.1 has been applied to demonstrate that the baseline of the project is still valid.

The Tool consists of two steps:

Step 1: The "Procedures for the renewal of the crediting period of a registered CDM project activity" approved by the CDM Executive Board require assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline. The validity of the current baseline is assessed using the following Sub-steps:

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies.

The Project baseline is the "grid-connected electricity generation from renewable sources". The Project is still in compliance with Electricity Market Law with Number 4628 and dated 03/03/2001 and Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy with Number 5346 and dated 18/05/2005 (current legal framework, all required relevant regulations and laws). There is no changes or revision of these laws and legislation.

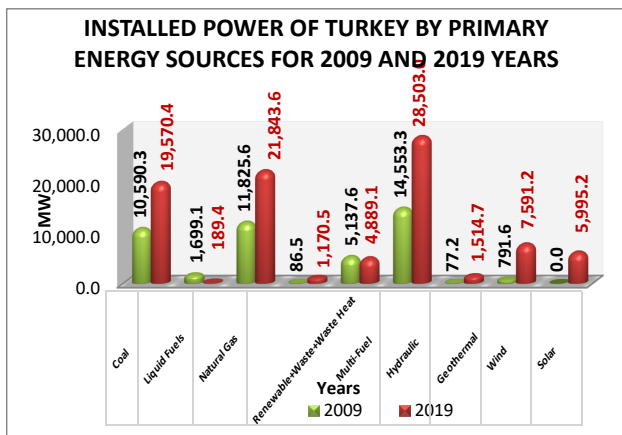
The conclusion is that the baseline of the project activity complies and will continue to comply with the laws and regulations in the sector for the next crediting period.

**Step 1.2:** Assess the impact of circumstances

The conditions used to determine the baseline emissions in the previous crediting period are still valid.

The electricity generation is predominantly composed by fossil fuel fired power plants in Turkey. The share of resources in the electricity generation in Turkey may be seen in Figure 5<sup>13</sup>.

Figure 4: The share of resources in the electricity generation

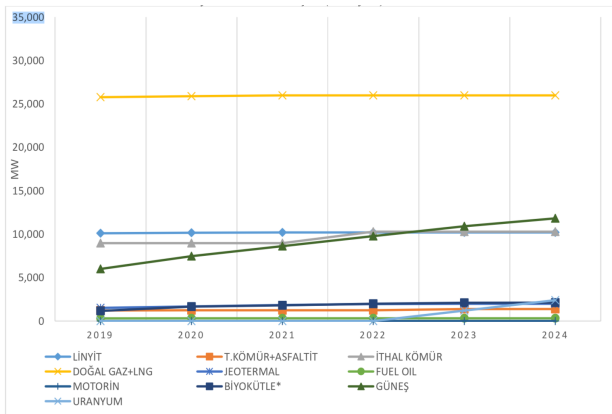


As per the 5-year capacity projection of TEIAS (Turkish Electricity Transmission Company), it is obvious that fossil fuels would continue being the main sources for

<sup>13</sup> <https://www.teias.gov.tr/tr-TR/turkiye-elektrik-uretim-iletim-istatistikleri>

electricity generation (approximately 62% in 2024). High growth rate of energy demand is forecasted to continue over coming decade. Fossil fuels will be dominant in the electricity generation mix, with an expected share of 62% in 2024. Renewables including wind energy would have a limited share of then 38 %. For this reason, main part of the new capacity will be fossil fuel based.

Figure 5 Capacity projection, 2019-2024<sup>14</sup>



Turkey as an advanced developing nation has looked at dealing with energy security by developing and constructing high capacity coal and natural gas power plants. The development of thermal power plants has been also encouraged by the large natural resource availability in Turkey, especially the abundance of economically accessible lignite.

**Step 1.3:** Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.

The same circumstances are valid for the price of electric energy.

The baseline scenario identified at the validation of the project activity was the continuation of grid-connected electricity generation from renewable sources. Under this scenario, no investment from the project's proponent or third party (or parties) has been envisioned later specifically for the project. Thus, this step in not applicable.

The technical lifetime of turbine is 25 years and there is no changes about their technology.

<sup>14</sup> <https://www.teias.gov.tr/tr-TR/ilgili-raporlar>

There is no change in investment and technology affecting project implementation so related conditions used to determine the baseline emissions in the previous crediting period are still valid.

**Step 1.4:** Assessment of the validity of the data and parameters

The emissions reduction calculations are based on two main parameters: the energy produced and the grid emission factor.

Since the energy generated under the project activity is monitored, only the grid emission factor should be updated for the purpose of the crediting period renewal.

The emission factors and values for the calculation of the baseline emissions have been determined for the whole crediting period and parameters not monitored have been changed. Therefore, Step 2 has been applied.

According to the methodology, baseline scenario was identified as “the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources”.

**Step 2:** Update the current baseline and the data and parameters.

**Step 2.1:** Update the current baseline

As confirmed in Step 1, under the current context of the sectoral policies and circumstances, the project baseline for the next crediting period is the use of electricity from the national grid. This is conform to the provisions of the latest version of the approved applicable methodology to the project activity namely: ACM0002 version 20.0, “Large-scale Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.

**Step 2.2:** Update the data and parameters

The grid emission factor has been updated according to the version of the tool: Tool to calculate the emission factor for an electricity system (Version 07.0).

According to tool three options has provided. The PP has used Option 1 of Paragraph 17 for national EF by Turkish Republic Ministry of Energy as 0.6482.

**B.5. Demonstration of additionality**

The local stakeholder consultation meeting was organized on 22/05/2008 in Kirkagac Municipality Hall before as it is before the construction of the plant. In addition to this, during the financial analysis done for the investment decision, the VER revenue has been taken into account. Everything is still same as registered capacity project related

with additionality assessment during the CP renewal process. Because the increase capacity has not added in the project boundary.

Time schedule of the project activity may be seen in in table 6 as followed:

Table 6: Time schedule of the project activity

Event	Actual / Expected	Date
Start and end of first crediting period	Actual	11/11/2010-10/11/2017
Gold Standards registration of Project Activity	Actual	15/04/2011
First monitoring period	Actual	11/11/2010-31/12/2011
Second Monitoring Period	Actual	01/01/2012-31/12/2012
Third Monitoring Period	Actual	01/01/2013-31/03/2014

The project activity consists of the installation of a new grid-connected renewable power plant. The respective baseline scenario would be the generation of grid-connected power, which would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system"v01.1.

The project activity is a green field investment, which does not modify or retrofit any existing electricity generation facility. The emission factors are calculated with the recent data available at the date of PDD compilation. The additionality methodology consists of the following steps;

- Identification of alternatives to the project activity;
- Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible;
- Barriers analysis; and
- Common practice analysis

**STEP 1. Identification of alternatives to the project activity consistent with current laws and regulations**

This step involves the definition of realistic and credible alternatives to the project activity that can be part of the baseline scenario.

*Sub-step 1a. Define alternatives to the project activity:*

The Project involves the generation of electricity and sales of VER credits. It will help Turkey to stimulate and commercialise the use of grid connected renewable energy technologies and markets. The two alternatives identified to the project activity are;

Alternative A. The proposed project activity will be undertaken without the generation and sale of VER credits.

➤ The Project Owner's experience and knowledge is focused on wind energy only. The Project Owner has no alternative plan, e.g. hydro or fossil-fuel fired power plants that it would realize as an alternative option. The Project owner has no such power plant under its ownership, no intention or any license or permit application regarding such alternatives. Therefore the Project activity is the only scenario that the Project owner can realize. The revenues derived from the sale of voluntary emission reductions have been included in the financial feasibility analysis and preliminary negotiations with the bank, and the investment decision relies upon carbon trading. Since the project is not feasible for project participants without the sales of VER credits due to its low IRR, the Project will not be realized and this alternative cannot be considered as the baseline scenario. These statements will be further elaborated within the framework of a barrier analysis in this section.

Alternative B. Continuation of the current situation: The project activity is not realized and investors do not take any actions.

➤ In this alternative, the same amount of electricity to be produced by the project activity will be generated by other power plants connected to grid, where the energy mix is dominated by fossil fuel fired power plants.

No realistic and credible alternative scenarios to the proposed project activity can be identified that deliver electricity with comparable quality, properties and application areas. The national grid is already increasing its installed capacity through expansion of existing power plants and constructing new power plants. As similar activities, only wind farms are identified, since organisational, technical, economical and sustainability aspects of other renewable energy technologies (e.g. hydropower, geothermal, solar etc.) are not directly comparable to wind energy. Hydropower plants are not directly comparable to wind farms, since a specific HEPP that provides the same amount of energy can have much lower or higher plant load factors (i.e. installed capacity and capital expenditure) than the Project activity, making it difficult to compare them on an economical basis. Environmental and social aspects of HEPPs also vary widely (some having serious negative impacts while others can have mitigated low impacts), therefore it would not be correct to suggest that HEPPs provide the same product (clean energy) as the Project does. Furthermore, several HEPPs in Turkey require additional revenues from carbon credits, therefore they should not be regarded as alternatives to the Project. For these reasons, hydropower technology cannot be considered as an alternative to the Project activity. There is no specific HEPP project by any investor that is known to be planned as an alternative to the Project activity. Other technologies like PV, solar thermal, geothermal or biomass are also not plausible alternatives, because economic incentives are not high enough in Turkey to make them economically viable and financially feasible. In the host country, electricity generated from these resources are priced the same as hydro, wind or thermal, and these technologies have not reached maturity to compete with them on the price basis. Only a few biogas or geothermal power plants

exist in Turkey, which are carbon projects. Commercial solar plants do not exist at all, showing that these are not alternatives to the Project either. There is no indication (i.e. power generation license, relevant permits etc.) that another specific investor is or would be planning a specific renewable energy or thermal power plant in the host country as an alternative to the Project activity (that would be built in case the Project is not built)<sup>11</sup>. Thus, continuation of the current situation, with the electricity generated by the operation of grid connected power plants and by the addition of new generation sources in the Turkish National Grid can be considered as a realistic alternative for the project activity and no other alternatives other than both above mentioned alternatives have been considered as potential baseline scenarios.

Outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity

Alternative B is identified as the baseline scenario, since Alternative A is not "applicable, which have been further elaborated in Section B.5. According to the baseline scenario, the electricity delivered to grid has been continued to be fed by a power plant portfolio, which is highly fossil fuel dependent and CO2 intensive (see figures below).

Figure 6 Electricity generation mix in Turkey<sup>15</sup>

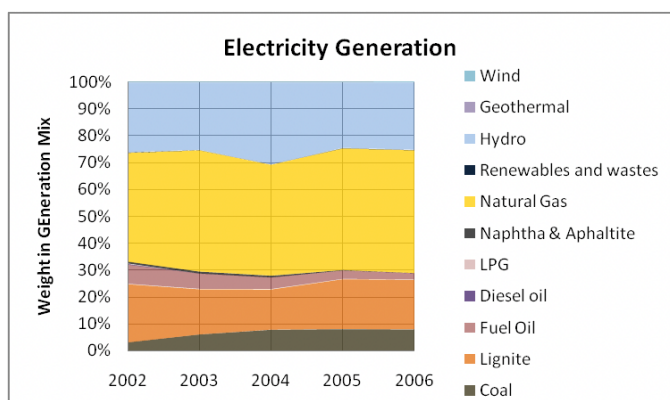
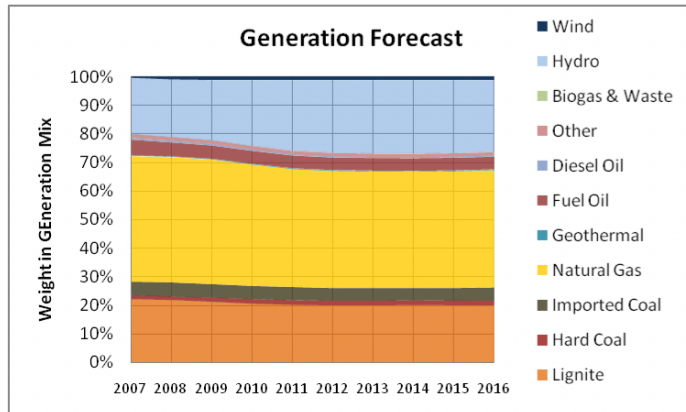


Figure 6 shows the current practice of electricity generation in Turkey; the weight of fossil fuels in electricity generation has been around 70-75% for the last five years and is not expected to change much in the future as highlighted in Figure 7.

Figure 7 Electricity Generation Forecasts<sup>16</sup>

<sup>15</sup> Based on TEIAS data, <http://www.teias.gov.tr/istatistik2005/39.xls>, [http://www.teias.gov.tr/ist2006/36\(06\).xls](http://www.teias.gov.tr/ist2006/36(06).xls) .

<sup>16</sup> TEIAS capacity projection 2007-2016, p.30. (<http://www.teias.gov.tr/projeksiyon/projeksiyon%20Temmuz2007.pdf>)



The official forecasts as displayed in Figure 6 suggest that in the future power generation in Turkey will be dominated by fossil fuel sources covering more than 70% of the overall electricity supply. In this framework, the continuation of the current situation (Alternative B) would mean carrying on this fossil fuel dominated trend.

The same forecasts show that wind energy is expected to cover around 1% of Turkey's electricity demand during 2007-2016. Thus, wind farm projects most likely will not become business as usual in the near future.

Sub-step 1b. Consistency with mandatory laws and regulations

Both alternatives as well as the project activity are subject to the following laws;

Relevant Laws	Number / Enactment Date
Electricity Market Law	Nr. 4628 / 03.03.2001
Energy Efficiency Law	Nr. 5627 / 02.05.2007
Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy	Nr. 5346 / 18.05.2005
Environmental Law	Nr. 2827 / 11.08.1983

There are various regulations in connection with these laws as well. The mandatory preliminary permits have been obtained for the project activity, showing that it is in compliance with the current laws and regulations. Turkey did not ratify the Kyoto Protocol and has no national legal binding emission reduction goals for power plants. Hence, both alternatives, A and B, are consistent with the applicable legislation.

Outcome of Step 1b: As mentioned above, if the project activity is not feasible and will not be realized, the project participant does not have an alternative investment plan that would generate electricity with a comparable quality and similar amount. Alternative A cannot be considered as a plausible scenario because of financial, investment, technological and prevailing practice barriers that would prevent the

project activity from being implemented, which will be further elaborated below. Therefore, the only plausible baseline scenario to the Project is Alternative B: the continuation of the current situation without realization of the proposed Project Activity.

For the demonstration of additionality, a barrier analysis or an investment analysis, or both can be conducted. Barrier analysis is applied.

## **STEP 2. Investment Analysis**

The Investment Analysis is not applied.

## **STEP 3. Barrier Analysis**

This analysis determines whether the proposed project activity faces barriers that:

- Prevent the implementation of this type of proposed project activity; and
- Do not prevent the implementation of at least one of the alternatives

Sub-step 3a. Identify barriers that would prevent the implementation of the proposed project activity:

Investment -, technical -, prevailing practice - and other barriers are explained below for the scenario identified as Alternative A, which assumes that the project activity being implemented without consideration of revenues from VER credits;

### **(a) Investment barriers**

- Lack of Infrastructure: Legally TEIAS is required to construct the 154 kV HV transmission line to connect the Project site to the national grid, since the Project is located in a relatively remote location. Thus, project participants are required to pre-finance the 28 km-long transmission line in advance, putting further difficulties in finding funding for the already high initial investment budget. Although associated costs are later "compensated" by TEIAS, the official internal price tariffs are structured such that this compensation is not based on actual up to date costs, resulting in a significant loss on behalf of the project participant.
- As of PDD development date, no similar wind energy project has been taken into operation without VER credits in Turkey.
- Access to finance: Although being one of the leading and credited wind energy companies in Turkey, the project participants have experienced some difficulties in securing the finance for the Project because of the following reasons;
  - Transmission Fee: The transmission line system usage fee, depends on the project location and can differ significantly. It constitutes a significant operating cost item for the Project, since this fee is the second highest<sup>7</sup> among 23 distribution grids in Turkey, reducing the feasibility of this Project in particular. Furthermore, the expected privatization process of these distribution networks contains the risk of distribution fee increases.
  - Equipment Selection: The Enercon wind turbines, which are chosen for the Project, have higher prices than comparable turbines. This choice is justified by their high quality, reliability, extensive technical support, grid friendliness, low

maintenance requirements and low noise. However, it amplifies the investment volume, thus posing another barrier.

- After the recent credit crunch and the related global financial crisis, the international and the local financial sector is having a wide range of challenges. With several banks gone bankrupt or taken over by governments/competitors, the financial world has shifted its focus more to internal difficulties rather than financing projects. Nowadays, several banks have stopped new loans and even started calling their loans back before maturity. Project developers in Turkey are also facing the same difficulties, adding very significant barriers to the feasibility of the Projects. The Project proponents are not sure anymore whether financial institutions will be able to supply loans for the Projects with comparable conditions as before.

The Turkish financial market is experiencing such high difficulties that some commercial Turkish banks are even exercising their "call back" option for their loans, which means that banks take extreme measures to ensure their survival. This, on the other hand, leaves companies in very difficult positions. Turkish banks have lately been criticized by the government for acting too much on their behalf without paying attention on their customers, and these arguments have been accepted even by the Turkish Banks' Association. In this environment, companies have very serious financial problems and new projects are having various challenges for finding finance. These developments leave no doubts about the financial additionality of the Projects under validation.

As a result of these changes, the ongoing loan discussions with the bank have been halted abruptly by the bank until February 2009. Further discussions revealed that the bank's loan conditions are not attractive for the Project Owner and the talks have been stopped in December 2009. The Project Owner has initiated talks with another commercial bank in January 2010 and has signed the loan agreement as of February 2010. The delay in securing finance clearly demonstrates the financial barriers faced.

#### (b) Other Barriers

- **Institutional Capacity:** A significant portion of the required technology and know how must be imported. The former wind farm projects of the same Project proponents have resulted in the formation of a joint venture for wind turbine blade manufacturing, demonstrating the know how transfer caused by similar projects. As of today, this JV is selling blades to internal and external buyers. Moreover, the selected Enercon wind turbines for the Project activity are grid friendly units, allowing further expansion capacity of wind power plants in the grid, which is an additional benefit of the Project. However, TEIAS prefers to limit the wind power capacity at each transformer station without differentiating between different wind turbine specifications. Therefore, the Project had to apply for a generation license with a lower installed capacity.
- **Legal and bureaucratic difficulties:** Apart from the rigorous permit process, the history of the licensing process is summarized below:

Date	Action
29.12.2003	EMRA <sup>15</sup> is applied for the electricity generation license
05.01.2004	EMRA requested additional information
09.01.2004	Requested information is submitted to EMRA
13.01.2004	EMRA requested construction planning
21.01.2004	Requested documentation is submitted to EMRA
04.03.2004	EMRA requested the payment of the license fee in order to start with assessment
12.03.2004	License fee is paid and EMRA is informed
31.05.2006	EMRA requested for additional documents (after 2 years)
14.09.2006	Requested documentation is gathered and submitted
22.08.2007	EMRA forwards Alize Enerji TEİAŞ's request to connect to Soma transformer station
24.08.2007	The request is accepted
12.09.2007	EMRA takes board decision to grant the license
15.10.2007	The currently valid license is obtained by Alize Enerji.

- As seen from above, the license could only be obtained after nearly 4 years following the first application. Beside time issues, the costs associated with the whole process have been at significant levels. Moreover, there have been several challenges during the permit process as well, which are not included in the list. This clearly shows legal and bureaucratic barriers which have been gone through.

Outcome of Step 3a: The identified barriers are sufficient grounds for demonstration of additionality since they prevent potential project proponents from carrying out the proposed project activity undertaken without being registered as a VER project activity. The barriers mentioned above prevent the realization of Alternative A (the proposed Project Activity undertaken without VER credits).

Sub-step 3b. Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)

Identified barriers explained in Sub-step 3a would not prevent the implementation of the Alternative B, which is mainly the continuation of fossil fuel and hydro power plant construction because of the following reasons:

- Investment Barriers: Investment barriers partly affect ongoing power plant investments; however as the current practice of financial institutions also shows, fossil fuel powered power plant investments often face considerably lower investment barriers as a result of:
  - Smaller initial investment volumes compared to similar-capacity renewable energy projects: The Project's technology has a higher investment volume per MW compared to fossil fuel fired power plants. The Project had a very hard time accessing finance and loan discussions have taken a long time. Therefore Project's alternatives (i.e. mostly fossil-fuel fire power plants) are not affected by the same financial and institutional barriers.
  - Familiarity of financiers, investors and authorities: The Project had to apply for a lower capacity (as MW) because of the insufficient institutional capacity of

relevant public bodies (please refer to “institutional capacity” barrier for details). Fossil fuel fired power plants are very well known by public authorities and financial institutions as they dominate electricity generation of Turkey. Only licensing, apart from other permits, took about 4 years. Therefore the barriers do not apply to the alternatives.

- Technological Barriers: Large hydro - and fossil fuel fired thermal power plants, which constitute a big portion in the installed capacity forecasts, utilize conventional technologies, which are well known and mature. In Turkey there are technically competent equipment suppliers, technical planners, contractors, maintenance staff etc. regarding such investments. Therefore the continuation of the current situation does not involve any identifiable technological barriers.

- Prevailing Practice: This alternative already involves the current practice and is therefore not applicable.

- Other Barriers: In general, there is an oversupply of imported natural gas in Turkey because of Turkey’s international take-or-pay purchase contracts. Therefore, the national energy policy supports the expansion of natural gas networks stimulating the demand. Furthermore, the Turkish energy policy is based on a strategy acting as an energy bridge between the Eastern and the Western oil and gas markets, thereby securing its own fossil fuel supply and gaining strategic position in the global energy market. This strategy prioritizes fossil fuels at political levels, whereby renewable resources and their strategic importance are seen as secondary. In terms of licensing procedure, renewable energy investors are faced with additional permit bureaucracy (e.g. wind farm license applications are not being accepted by EMRA as of the date of GS application, HEPP applications are thoroughly reviewed by DSI (State Hydraulic Works) in terms of their technical design and feasibility, projects on overlapping areas need to pay additional fees or settle with other project applicants etc.), which thermal power plant projects are not faced with, since such conventional projects do not require to be set up on natural resources).

These reasons stated above prevent Alternative B being affected by the barriers, whereas these barriers seriously affect the Alternative A.

### B.5.2 Ongoing Financial Need

Below you can find the electricity sales income, operational costs, carbon sales income and carbon certification expenses. They are all normalized to the net income (divided by net income).

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version	According to the Annex 5 of EB 62 “Guidelines on the assessment of Investment analysis” version 5, only variables including the initial investment cost, that constitute more than 20% of either total project costs or total project
--	---

number and the specific paragraph, if applicable).	revenues should be subjected to reasonable variation.  In accordance with the guidelines, important parameters for the feasibility of the proposed project activity are defined as investment cost, production expenses and revenues. The mentioned parameters have been tested with a range of ±10% for the sensitivity analysis.
Describe how the proposed project meets the criteria for deemed additionality.	The Internal Rate of Return (IRR) is below the financial benchmark when the PDD has prepared, thus project activity cannot be considered to be a financially attractive alternative.

For Crediting Period (11/11/2010-10/11/2017)	% to Net Income
Income	129.27
Costs	29.27
Net Income	100
Carbon Income	3.05
Carbon Costs	1.30
Net Carbon Income	1.75

Income occurring from electricity sales (sole income except carbon revenues) is 1.29 times the net income and overall expenses (including depreciation costs) make up to 29.27 times the net income. Revenues from carbon credit sales make only 3.05 percent of net income. Carbon certification costs amount to 1.30 percent of the net income and net carbon sales income amount 1.75 percent of net electric sales income.

The project is not financially attractive. Therefore, carbon revenues are crucial for the project. The income of the GS VER is very important for the financial performance of the project and GSVERs price has been increased. So, the results of the financial analysis still same for the project, with the decision to go ahead was made 7 years ago, both with and without VER financing. This therefore indicates that in comparison to alternative investments, the Project was still financially unattractive in the absence of VER financing.

The project has not continued the verification process because of the economic situation of cost and carbon credit's price.

## B.6. Sustainable Development Goals (SDG) outcomes

### B.6.1 Explanation of methodological choices/approaches for estimating the SDG Impact

Relevant Target/Indicator for each of the three SDGs

	SDG Impact
--	------------

Sustainable Development Goals Targeted	Most relevant SDG Target	Indicator (Proposed or SDG Indicator)
13 Climate Action (mandatory)	T:13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	I:13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
7 Affordable and Clean Energy	T:7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	I: 7.2.1 "Renewable energy share in the total final energy consumption
8 Decent Work and Economic Growth	T: 8.5 By 2030 achieve full and productive employment and decent work for all women and men	I: 8.5.2 Unemployment rate, by sex, age and persons with disabilities

### SDG 7: Affordable and Clean Energy

The baseline for the project is no project, thus leading to generation in the relevant grid which is dominated by fossil fuel. The clean energy generated by the project is calculated based on the amount of electricity generated by the project per annum. The project is expected to generate 74,006.983 MWh<sup>17</sup> of clean energy per annum. Net generation will be as below.

Net Generation (MWh) = Electricity Supplied to the Grid (MWh)– Electricity Consumption from the Grid (MWh)

The net generation and internal consumption identified and approved by authorized EPIAS.

The project contributes to the following indicators 7.2.1 "Renewable energy share in the total final energy consumption" and following target: 7.2 "By 2030, increase substantially the share of renewable energy in the global energy mix."

### SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project provides employment to 8 people during the operation phase.

The project contributes to the following indicators 8.5.2 "Unemployment rate, by sex, age and persons with disabilities" and following target: "8.5 By 2030, achieve full and

<sup>17</sup> The average value of Alize WPP's electricity generation between 2011 and 2021. (11 years).

productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value”  
The target will be monitored by the number of full-time employees with the SGK records during the verification process. Because of the social conditions of the project area, employment of woman and persons with disabilities is not possible.

The project contributes to the following indicators 8.5.2 “Unemployment rate, by sex, age and persons with disabilities” and following target: “8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value”  
The target will be monitored by the number of full-time employees with the SGK records during the verification process. Because of the social conditions of the project area, employment of woman and persons with disabilities is not possible.

### **SDG13: Climate Action:**

The project leads to mitigation of 47,971 tCO<sub>2</sub> per annum.

The project contributes to the following indicators 13.3.2 “Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions” and following target 13.3 “Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning”

The project’s contribution is done through training and awareness raising of local people and setting good example by investing to the climate friendly technology.

As developing the baseline and calculation of the emission reductions for the proposed project activity are calculated according to “Tool to calculate the emission factor of an electricity system” version 07.0.

#### Emission Reductions

The emission reductions are calculated based on the below formula:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

$ER_y$  = Emission reductions in year y (tCO<sub>2</sub>e/yr)

$BE_y$  = Baseline emissions in year y (tCO<sub>2</sub>/yr)

$PE_y$  = Project emissions in year y (tCO<sub>2</sub>e/yr)

$LE_y$  = Leakage emissions in year y (t CO<sub>2</sub>/y)

#### Project Emissions

As the proposed project activity is a new grid-connected wind power plant. For this reason,  $PE_y$  is considered as “0” in line with ACM0002 Version 20.0

$PE_y=0$

Leakage

Leakage emission ( $LE_y$ ) is considered as "0" as suggested in ACM0002 Version 20.0

$LE_y=0$

Baseline Emissions

The baseline emissions are calculated as follows:

$BE_y = EG_{m,y} * EF_{CO_2,i,y}$

Where:

$BE_y$  = Baseline emissions in year y (tCO<sub>2</sub>/yr)

$EG_{m,y}$  = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)

$EF_{CO_2,i,y}$  = CO<sub>2</sub> emission factor of fuel type i in year y (t CO<sub>2</sub>/MWh)

According the "Tool to Calculate the Emission Factor for an Electricity System v 07.0.0". Option 1 has been selected.

Option 1

A delineation of the project electricity system and connected electricity systems published by the DNA or the group of the DNAs of the host country(ies), In case a delineation is provided by a group of DNAs, the same delineation should be used by all the project participants applying the tool in these countries.

Operating, Build and Combined Margin Emission Factors have been published by the Ministry of Energy and Natural resources. The Ministry has calculated the factors as using the "Tool to calculate the emission factor for an electricity system". Since it's the latest available data, published by the ministry, these factors have been considered.

#### **Calculation of the Operating Margin Emission Factor**

It's been published as 0.7258 tCO<sub>2</sub>/MWh by the Ministry of Energy and Natural Resources.<sup>18</sup>

#### **Calculation of the Build Margin Emission Factor**

---

<sup>18</sup> <https://enerji.gov.tr/Media/Dizin/EVCEd/tr/CevreVeIklim/IklimDeGISikliGI/TurkiyeUlusalElektrikSebekesiEmisyonFaktoru/Belgeler/EK-2.pdf>

It's been published as 0.4153 tCO<sub>2</sub>/MWh by the Ministry of Energy and Natural Resources.<sup>19</sup>

### Calculating of the Combined Margin Emission Factor

It's been published as 0,6482 tCO<sub>2</sub>/MWh by the Ministry of Energy and Natural Resources. The combined margin is calculated ex-post and has been fixed for the crediting period. And this calculated CM= 0.75xOM+0.25xBM. This national EF published by Turkish Republic Ministry of energy.<sup>20</sup>

	<b>TÜRKİYE ULUSAL ELEKTRİK ŞEBEKESİ EMİSYON FAKTÖRÜ BİLGİ FORMU</b>	Doküman No	ETKB-EVÇED-FRM-039 Rev.00
		Revizyon / Yayın Tarihi	01.09.2020

Faaliyet temelli marj ve gelişim temelli marj emisyon faktörü rakamları birleşik marj emisyon faktörünün hesaplanmasında kullanılmaktadır.

Hesaplanan faaliyet temelli marj ve gelişim temelli marj kullanılarak güneş ve rüzgâr kaynaklı elektrik üretim santralleri ve diğer yenilenebilir enerji santralleri için iki farklı birleşik marj emisyon faktörü hesaplanmıştır.

Faktör Türü	Yılı	Değeri (tCO <sub>2</sub> /MWh)
Birleşik marj emisyon faktörü (güneş ve rüzgâr)	2019	0,6482
Birleşik marj emisyon faktörü (diğer yenilenebilir)	2019	0,5706

Yenilenebilir enerji kaynaklı elektrik üretimi ile sağlanacak sera gazı salım (SGS) azaltım hesaplamalarında kaynak türüne göre hesaplanan birleşik marj emisyon faktörleri kullanılabilir.

EVÇED, Çevre ve İklim Daire Başkanlığı, İklim Grubu Telefon: +90 312 212 64 20 – 6992  
e-posta: cevre.iklim@enerji.gov.tr

### B.6.2 Data and parameters fixed ex ante

I: 7.2.1 "Renewable energy share in the total final energy consumption"

Data/parameter	EF <sub>CO<sub>2</sub>,grid,y</sub>
Unit	tCO <sub>2</sub> /MWh
Description	Combined margin CO <sub>2</sub> emission factor for the project electricity system in year y
Source of data	Republic of Turkey Ministry of Energy in Emission Factor 2019 <sup>21</sup>
Value(s) applied	0.6482

<sup>19</sup>

<https://enerji.gov.tr/Media/Dizin/EVÇED/tr/ÇevreVeİklim/İklimDeğişikliği/TürkiyeUlusalElektrikŞebekesiEmisyonFaktörü/Belgeler/EK-2.pdf>

<sup>20</sup>

<https://enerji.gov.tr/Media/Dizin/EVÇED/tr/ÇevreVeİklim/İklimDeğişikliği/TürkiyeUlusalElektrikŞebekesiEmisyonFaktörü/Belgeler/EK-2.pdf>

<sup>21</sup>

<https://enerji.gov.tr/Media/Dizin/EVÇED/tr/ÇevreVeİklim/İklimDeğişikliği/TürkiyeUlusalElektrikŞebekesiEmisyonFaktörü/Belgeler/EK-2.pdf>

Choice of data or Measurement methods and procedures	Calculate baseline emission
Purpose of data	Calculation of baseline emissions - to demonstrate contribution to SDG7- 7.2.1 Renewable energy share in the total final energy consumption

### B.6.3 Ex ante estimation of SDG Impact

#### SDG 7: Affordable and Clean Energy

The baseline for the project is no project, thus leading to generation in the relevant grid which is dominated by fossil fuel. The clean energy generated by the project is calculated based on the amount of electricity generated by the project per annum. The project is expected to generate 74,006.983MWh of clean energy per annum. Net generation will be as below.

Net Generation (MWh) = Electricity Supplied to the Grid (MWh)– Electricity Consumption from the Grid (MWh)

#### SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project provides employment to 8 people during the operation phase.

#### SDG13: Climate Action:

The project contributes to the following indicators 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions” following target 13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

The project leads to mitigation of 47,971tCO<sub>2</sub> per annum.

#### Baseline emissions

As per ACM0002, the baseline emissions are calculated as the net electricity generated by the project activity, multiplied with the baseline emission factor for the project grid. Baseline emissions calculated as explained in section B.6.1 above are summarized as below.

$$BE_y = EG_{m,y} * EF_{CO2,i,y}$$

Where,

BE<sub>y</sub> = Baseline emissions in year y (tCO<sub>2</sub>/yr)

EG<sub>m,y</sub> = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)

$EF_{CO_2,i,y}$  = CO2 emission factor of fuel type i in year y (t CO<sub>2</sub>/MWh)

Hence,

$$BE_y = 74,006.983 \text{ MWh/yr} * 0.6482 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 47,971 \text{ tCO}_2\text{e}$$

### Project emissions

The proposed project activity involves the generation of electricity by development of a large-scale wind power project. The generation of electricity does not result in greenhouse gas emissions and therefore:

$$PE_y = 0 \text{ tCO}_2/\text{year}$$

### Leakage

The energy generating equipment is not transferred from or to another activity. Therefore, leakage does not have to be taken into account, and:

$$LE_y = 0 \text{ tCO}_2/\text{year}$$

### Emission reductions

$$ER_y = BE_y - PE_y - LE_y$$

$$ER_y = BE_y$$

$$ER_y = 47,971 \text{ tCO}_2$$

## B.6.4 Summary of ex ante estimates of each SDG Impact

### SDG 7: Affordable and Clean Energy

The baseline for the project is no project, thus leading to generation in the relevant grid which is dominated by fossil fuel. The clean energy generated by the project is calculated based on the amount of electricity generated by the project per annum.

Year	Baseline estimate	Project estimate	Net benefit (MWh)
11/11/2017-31/12/2017	0	10,340.702	10,340.702
2018	0	74,006.983	74,006.983
2019	0	74,006.983	74,006.983
2020	0	74,006.983	74,006.983
2021	0	74,006.983	74,006.983
2022	0	74,006.983	74,006.983

2023	0	74,006.983	74,006.983
01/01/2024-10/11/2024	0	63,666.281	63,666.281
<b>Total</b>	<b>0</b>	518,048.881	518,048.881
<b>Total number of crediting years</b>	<b>7</b>		
<b>Annual average over the crediting period</b>	<b>0</b>	<b>74,006.983</b>	<b>74,006.983</b>

### SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project has been provided employment 8 people.

This helps to achieve SDG 8 with indicators 8.5.2 "Unemployment rate, by sex, age and persons with disabilities" and following target: 8.5 "By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value".

### SDG 13 Climate Action

The project contributes to the following indicators 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions" and following target 13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Year	Baseline estimate	Project estimate	Net benefit (tCO <sub>2</sub> )
11/11/2017-31/12/2017	6,702	0	6,702
2018	47,971	0	47,971
2019	47,971	0	47,971
2020	47,971	0	47,971
2021	47,971	0	47,971
2022	47,971	0	47,971
2023	47,971	0	47,971
01/01/2024-10/11/2024	41,268	0	41,268
<b>Total</b>	<b>335,796</b>	<b>0</b>	<b>335,796</b>

<b>Total number of crediting years</b>	<b>7</b>		
<b>Annual average over the crediting period</b>	<b>47,971</b>	<b>0</b>	<b>47,971</b>

## B.7. Monitoring plan

### B.7.1 Data and parameters to be monitored

<b>Relevant SDG Indicator/Safeguarding Principle</b>	Safeguarding Principle 4.3.4: Release of pollutants
<b>Data / Parameter</b>	Water Quality and Quantity (Disposal of the waste water)
<b>Unit</b>	N/A
<b>Description</b>	During the construction and operation phases, domestic wastewater produced by workers collected in impermeable septic tanks. This wastewater are collected by vacuum trucks of the Metropolitan Municipality of Manisa and disposed according to Regulation on Waste Water Control.
<b>Source of data</b>	Records of transfer of waste water from power plant by vacuum truck
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	N/A
<b>Monitoring frequency</b>	Once for each monitoring period
<b>QA/QC procedures</b>	N/A
<b>Purpose of data</b>	To monitor compliance to Safeguarding Principle 4.3.4 (Release of pollutants)
<b>Additional comment</b>	-

<b>Relevant SDG Indicator/Safeguarding Principle</b>	Safeguarding Principle 4.3.4: Release of pollutants
<b>Data / Parameter</b>	Water Quality and Quantity (Disposal of the waste water)
<b>Unit</b>	N/A
<b>Description</b>	During the construction and operation phases, domestic wastewater produced by workers collected in impermeable septic tanks. This wastewater are collected by vacuum trucks of the Metropolitan Municipality of Manisa and disposed according to Regulation on Waste Water Control.
<b>Source of data</b>	Records of transfer of waste water from power plant by vacuum truck
<b>Value(s) applied</b>	N/A
<b>Measurement methods and procedures</b>	N/A
<b>Monitoring frequency</b>	Once for each monitoring period

<b>QA/QC procedures</b>	N/A
<b>Purpose of data</b>	To monitor compliance to Safeguarding Principle 4.3.4 (Release of pollutants)
<b>Additional comment</b>	-

These SOx and NOx coefficients have already been validated during the first validation process and 3 verification process and verified values by DOE and GS before. However, these values cannot be accessed, since these reports have not available and renewed. Thus, PP do not need monitor the air quality during for this CP renewal crediting period.

Diesel oil consumption is not related to the wind turbines and this was backup generator on site consumes diesel oil and was operated when there was a black out in the grid. And the generated power was used only for office consumption. These values were negligible during the operation years, diesel oil consumption is minimal. So, there is no need to monitor diesel oil consumption for this CP renewal crediting period.

This Kuyucak WPP includes Enercon wind turbines, which have the unique feature of gearless power transmission. This not only results in less heat generation, but it also means less waste oil and less noise because of lower friction. Furthermore, during the last 12 years, local people from the near village has not complaint about noise. VVB has already interviewed with the villager about noise and during the site visit and also confirmed this situation. Therefore noise emissions of the Project does not affect local people negatively. So, there is no need to monitor the noise emission for this CP renewal crediting period.

The solid waste on site has been generated by the personnel, and not from processes. This domestic solid waste has been stored in closed containers on site and disposed of properly. This is not important issue for local area so, there is no need to monitor for this CP renewal crediting period.

Regarding the waste oil used as lubricant in the turbines, national legal disposal requirements have been applied. Licensed private companies have collected the waste oil on site and dispose it properly. The selected Enercon turbines have minimal moving components and can operate for years without oil change. The turbines are also equipped with oil absorption systems which prevent any leaks, thereby minimizing the risk of spillage and soil contamination. The Enercon type turbines' average oil consumption is a very low value. These values were negligible during the operation years so, there is no need to monitor the waste oil for this CP renewal crediting period.

## **SDG 7: Affordable and Clean Energy**

7.2.1 Renewable energy share in the total final energy consumption

<b>Data / Parameter</b>	EGfacility,y																																											
<b>Unit</b>	MWh																																											
<b>Description</b>	Quantity of electricity generated and supplied by the project power plant to the grid in year y																																											
<b>Source of data</b>	Monthly electricity meter readings																																											
<b>Value(s) applied</b>	74,006.983																																											
<b>Measurement methods and procedures</b>	The net electricity generation supplied to the grid will be measured continuously by TEAIS meters (both main and spare) and recorded monthly.																																											
<b>Monitoring frequency</b>	<p>Continuous measurement and at least monthly recording. (Automatic meter reading system-OSOS)</p> <p>The accuracy of meters is given as 0.2s active and 0.5s reactive class</p> <p>OLD METERS</p> <table border="1"> <thead> <tr> <th></th> <th>Electricity Meter(Primary)</th> <th>Electricity Meter (Secondary)</th> </tr> </thead> <tbody> <tr> <td>Manufacturer</td> <td>ELSTER</td> <td>ELSTER</td> </tr> <tr> <td>Model</td> <td>A 1500</td> <td>A 1500</td> </tr> <tr> <td>Date of old meter serial number</td> <td>401681</td> <td>401680</td> </tr> <tr> <td>Date of installation</td> <td>12/11/2010</td> <td>12/11/2010</td> </tr> <tr> <td>The accuracy of meters</td> <td>0.2s active 2 re-active</td> <td>0.2s active 2 re-active</td> </tr> </tbody> </table> <p>The primary meter has changed as with 8923676 serial number on 27/10/2019 and secondary meter has changed as with 8923677 serial number on 14/12/2019. All official documents related with meters have been provided to the VVB during the site visit.</p> <table border="1"> <thead> <tr> <th></th> <th>Electricity Meter(Primary)</th> <th>Electricity Meter (Secondary)</th> </tr> </thead> <tbody> <tr> <td>Manufacturer</td> <td>EMH</td> <td>EMH</td> </tr> <tr> <td>Model</td> <td>LZQJ-XC-P2FB</td> <td>LZQJ-XC-P2FB</td> </tr> <tr> <td>Serial number</td> <td>8923676</td> <td>8923677</td> </tr> <tr> <td>Date of installation</td> <td>27/10/2019</td> <td>14/12/2019</td> </tr> <tr> <td>Date of initial calibration</td> <td>20/08/2019</td> <td>20/08/2019</td> </tr> <tr> <td>Date of last test by TEIAS</td> <td>07/08/2021</td> <td>07/08/2021</td> </tr> <tr> <td>The accuracy of meters</td> <td>0.2s active 0.5 re-active</td> <td>0.2s active 0.5 re-active</td> </tr> </tbody> </table>			Electricity Meter(Primary)	Electricity Meter (Secondary)	Manufacturer	ELSTER	ELSTER	Model	A 1500	A 1500	Date of old meter serial number	401681	401680	Date of installation	12/11/2010	12/11/2010	The accuracy of meters	0.2s active 2 re-active	0.2s active 2 re-active		Electricity Meter(Primary)	Electricity Meter (Secondary)	Manufacturer	EMH	EMH	Model	LZQJ-XC-P2FB	LZQJ-XC-P2FB	Serial number	8923676	8923677	Date of installation	27/10/2019	14/12/2019	Date of initial calibration	20/08/2019	20/08/2019	Date of last test by TEIAS	07/08/2021	07/08/2021	The accuracy of meters	0.2s active 0.5 re-active	0.2s active 0.5 re-active
	Electricity Meter(Primary)	Electricity Meter (Secondary)																																										
Manufacturer	ELSTER	ELSTER																																										
Model	A 1500	A 1500																																										
Date of old meter serial number	401681	401680																																										
Date of installation	12/11/2010	12/11/2010																																										
The accuracy of meters	0.2s active 2 re-active	0.2s active 2 re-active																																										
	Electricity Meter(Primary)	Electricity Meter (Secondary)																																										
Manufacturer	EMH	EMH																																										
Model	LZQJ-XC-P2FB	LZQJ-XC-P2FB																																										
Serial number	8923676	8923677																																										
Date of installation	27/10/2019	14/12/2019																																										
Date of initial calibration	20/08/2019	20/08/2019																																										
Date of last test by TEIAS	07/08/2021	07/08/2021																																										
The accuracy of meters	0.2s active 0.5 re-active	0.2s active 0.5 re-active																																										

	<p><b>Calibration frequency:</b> According to the Article 9 of the relevant regulation<sup>22</sup>, periodical inspections of “gauges for electric, water, coal gas, natural gas and, current and voltage measuring transformers will be made once in 10 years”<sup>23</sup>. This is in line with the monitoring plan and national requirements. TEIAS is deciding when to carry out the next calibration. The Project owner has no control over or access to the measurement devices and is not entitled to perform any type of maintenance or calibration.</p> <p><b>Date of initial calibration:</b> The calibration of the monitoring equipment was carried out according to the information provided in the PDD. The PDD mainly includes the following obligation for the calibration of the appropriate meters:  “TEIAS is responsible for calibration and maintenance of the devices. If any difference occurs between primary and secondary device TEIAS performs necessary calibration”</p>
<b>QA/QC procedures</b>	<ul style="list-style-type: none"> <li>• Measurements are undertaken using energy meters.</li> <li>• Concerning metering system accuracy, project participant has to comply with relevant national legislation. The project must ensure that the metering devices are in line with the technical requirements which are set out by the Communiqué for Metering Devices to be used in the Electricity Market which describes the minimum accuracy requirement the metering devices have to fulfil, which are categorized according to the installed capacity.</li> <li>• Maintenance and calibration of TEIAS meters will be carried out according to the System Usage Agreement. Since TEIAS meters are sealed by TEIAS the project proponent cannot intervene with the devices<sup>24</sup>.</li> <li>• The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import. Data measured by meters will be crosschecked with the EPIAS records. Also, SCADA can use for checking this kind of data’s if VVB wants to check them.</li> </ul>
<b>Purpose of data</b>	Baseline/emission reductions calculations
<b>Additional comment</b>	-

## SDG 8: Decent Work and Economic Growth

### 8.5.2. Unemployment rate, by sex, age and persons with disabilities

<b>Data / Parameter</b>	Number of employment generation
-------------------------	---------------------------------

<sup>22</sup> “Measurement and Measuring Tools Inspection Regulation”, Date: 24/07/1994, Official Gazette Number: 22000 <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

<sup>23</sup> <https://www.resmiazete.gov.tr/eskiler/2016/06/20160629-22.html>

<sup>24</sup> <http://www.mevzuat.gov.tr/MevzuatMetin/1.5.3516.doc>

Formatted: Hyperlink

Formatted: Hyperlink

<b>Unit</b>	Number
<b>Description</b>	Number of people employed directly due to the project activity
<b>Source of data</b>	SGK Records
<b>Value(s) applied</b>	The project provides 8 employments
<b>Measurement methods and procedures</b>	The total number of persons working in the plant would be calculated based on the SGK Records
<b>Monitoring frequency</b>	Once for each monitoring period
<b>QA/QC procedures</b>	Social insurance registries of employees will be provided annually.
<b>Purpose of data</b>	-
<b>Additional comment</b>	-

<b>Relevant SDG Indicator</b>	8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status.
<b>Data / Parameter</b>	Health and Safety Training Records
<b>Unit</b>	Number of people per monitoring period
<b>Description</b>	Number of people trained on health and safety issues during per monitoring period
<b>Source of data</b>	Training Records or Certificates
<b>Value(s) applied</b>	The project will provide health and safety training to employees at each monitoring period
<b>Measurement methods and procedures</b>	The total number of Health and Safety training based on Training Records or Certificates
<b>Monitoring frequency</b>	Once for period each monitoring
<b>QA/QC procedures</b>	Training records or certificates will be provided
<b>Purpose of data</b>	Monitoring the health and safety trainings of employees to demonstrate contribution to SDG8-8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
<b>Additional comment</b>	n.a

### SDG 13 Climate Action

13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions" and following

<b>Data / Parameter</b>	ER <sub>y</sub>
<b>Unit</b>	tCO <sub>2</sub> /y
<b>Description</b>	Emission Reductions in year y (t CO <sub>2</sub> /yr) As per ACM0002 V 20.0, the baseline emissions (emission reductions) are calculated as the net electricity generated by the project activity, multiplied with the baseline emission factor for the project grid.
<b>Source of data</b>	Measured and calculated. (The emission reduction value the emission factor of the grid to which the project exports electricity (0.6482 tCO <sub>2</sub> /MWh) and net electricity generated)
<b>Value(s) applied</b>	47,971tCO <sub>2</sub> <sup>25</sup>
<b>Measurement methods and procedures</b>	Please see B.6.2 for more detailed description of the monitoring plan.
<b>Monitoring frequency</b>	Once for each monitoring period
<b>QA/QC procedures</b>	Republic of Turkey Ministry of Energy in Emission Factor 2019 <sup>26</sup>
<b>Purpose of data</b>	-
<b>Additional comment</b>	-

### B.7.3 Other elements of monitoring plan

According to the Turkish Law and Regulations, the methods of monitoring the net electricity fed to the grid and quality control and assures are explained below:

Data processing and archiving: Monitoring data is collected in accordance with the agreement done between the project owner and TEIAS Electricity Distribution Company (TEIAS) which provides the infrastructure for the connection to the national grid. The metering system is defined in the agreement as two groups: main meter and secondary meter. The design of the metering system is checked and approved by TEIAS before commissioning of the plant. The technical specifications of the power meters should be in line with Measure and Metering Devices Regulation by Ministry of Industry and Trade. In addition, the Communique for Power Meters announced by Energy Market Regulations Authority (EMRA) requires all meters to be in line with either Turkish Standards Institution or International Electro Technical Commissions Standards. The meters are placed at the point the electricity is fed to the grid and sealed on behalf of both parties. This prevents any intervention and assures the accuracy and quality of the

<sup>25</sup> [This value will be changed according to net electricity generation value.](#)

<sup>26</sup>

<https://enerji.gov.tr/Media/Dizin/EVCED/tr/CevreVeIklim/IklimDeğişikliği/TürkiyeUlusalElektrikŞebekesiEmisyonFaktörü/Belgeler/EK-2.pdf>

measurements. All requirements and specifications of the meters will be done according to Communique on the counter to be used in the Electricity Market by Energy Market Regulatory Authority on 22/04/2011. The Enercon SCADA system also stores various data (e.g. electricity generated by each turbine, energy supplied etc.) electronically.

Data has been stored electronically, during the crediting period and at least two years after the last issuance of credits for the wind farm project activity in the concerning crediting period. The project participants also archived a hardcopy of meter reading protocols, scanned them, and stored them. The invoices are kept by the Project owner as hardcopies. Furthermore, the EPIAS system stores the reports electronically, which is accessible to the Project owner whenever necessary.

The project's capacity was increased to 50.1 MW from 25.6 MW but monitoring is very easy. The project's capacity was increased to 50.1 MW in 2017 as a capacity extension. Accordingly, PP can use only 25.6 MW capacity's electricity generation for the purpose of emission reduction calculations. For this, the ratio between the electricity generations of 25.6 MW and of 50.1 MW capacities; namely, the ratio between the actual electricity generation of the initial (existing) capacity against the electricity generation of the total capacity should be calculated:

The net electricity supplied by the Wind Farm (including the existing and additional capacity) to the national grid is measured by TEİAŞ metering devices. As well, the electricity generation of each wind energy converter (wind turbine) under Kuyucak 25.6 MW Wind Farm Project (the existing capacity and added capacity) has been measured continuously with a SCADA system. Using the SCADA data, the total amount of electricity generated from the existing capacity under the proposed project activity and the added capacity has been measured on monthly basis and has been used to calculate the ratio of electricity generation. The PP can use the ratio for monitoring. By applying this ratio to net electricity amount supplied to the national grid, the emission reduction project GS576 under the project activity will be calculated.

Formulation: The following equation will be used to calculate the the quantity of net electricity generation supplied to the grid by the project plant that has been added under the project activity:

$$EG_{PJ-ADD,y} = EG_{facility,y} * EG_{RATIO,y}$$

Where:

$EG_{PJ-ADD,y}$  = Quantity of net electricity generation supplied to the grid in year y by the project plant/units that has been used under the 25.6 MW project activity (MWh/yr)

$EG_{facility,y}$  =Quantity of total net electricity generation supplied to the grid in year y by the facility [the Project Activity's existing capacity (50.1 MW) and capacity addition (24.5MW)] and measured by the TEİAŞ meters (MWh/yr)

$EG_{RATIO,y}$ =Ratio between electricity generation of the plans/units of the Project Activity (25.6MW) and the total gross generation of the 50.1MW facility in year y (%) calculated as per SCADA.

QA/QC procedures: The main and secondary meter readings are recorded monthly and cross-checked whether calibration is required. The capacity of the transmission line connected is to 154 kV, the accuracy class for power meters have been defined in the Communiqué for Power Meters. The calibration frequency of the meters is 10 years. It is under the responsibility of TEIAS. Since TEIAS meters are sealed by TEIAS, the project proponent cannot intervene with the devices.<sup>27</sup> The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import. Data measured by meters will be crosschecked with the EPIAS records.

Roles and responsibilities: The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project proponent. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipment's for this project activity.

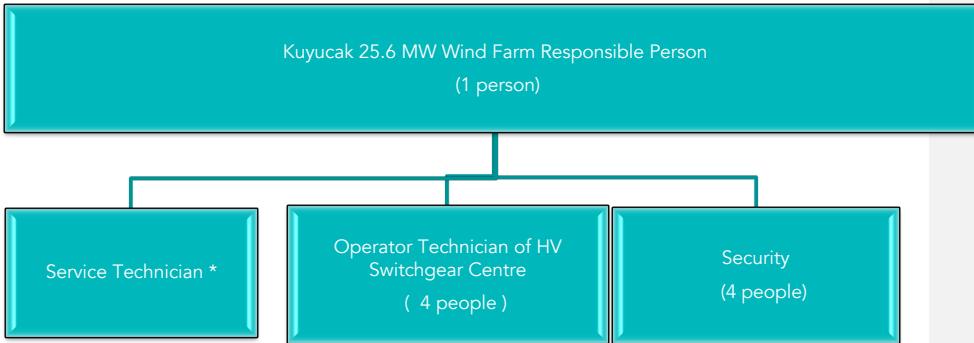
Plant engineer is responsible for the information flow and monitoring procedures in the name of the Project owner. These responsibilities include proper implementation of the monitoring plan, ensuring the information flow between the Project owner company and the VVB and management of the monitoring and verification procedures. The Electrical Engineer of Kuyucak WPP, responsible for monitoring issues on site.

The internal control procedures maintain the reliability and accuracy in the data transfer and calculations. The plant personal records the data on regular basis from both meters and compares the values for consistency. The responsible engineer performs regular checks of this procedure each month and controls the monthly data of main and second meters. If any difference occurs between the two meters, TEIAS has to be informed for further actions. Reliability and accuracy of monthly values is reached by comparative readings both from the project participant and TEIAS, where high accuracy is guaranteed and needed by the requirements of billing purposes.

---

<sup>27</sup>

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>



\*The Service Technician can be changed according to their work schedule. And Alize Enerji Elektrik Üretim A.Ş. has only responsible of wind farm electrical engineer, HV Switchgear Operators, Security personals and forest officer. (8 people).

## SECTION C. DURATION AND CREDITING PERIOD

### C.1. Duration of project

#### C.1.1 Start date of project

11/11/2010 Project activity started on 11/11/2010 as per the registered PDD for CP1

#### C.1.2 Expected operational lifetime of project

25 years and 0 months

### C.2. Crediting period of project

Renewable crediting period is chosen for the Kuyucak 25.6 MW Wind Farm Project, Turkey

#### C.2.1 Start date of crediting period

Starting date of the first crediting period: 11/11/2010

Starting date of the second crediting period: 11/11/2017

#### C.2.2 Total length of crediting period

7 years and 0 months, which is planned to be renewed. (21 years) The crediting period is second crediting period.

Date of the second crediting period: 11/11/2017-10/11/2024

## SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

### D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in Appendix 1, ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan
Principle 9.4 Release of pollutants	<p>The all wastes are disposed of according to related regulations. The methods are categorized for all materials.</p> <p>The employees produce the insignificant amount of waste waters during the operation of the proposed project activity. This wastewater has been collected in an impermeable septic tank and collected via vacuum trucks by aydin municipality and disposed according to Regulation on Control of Water Contamination<sup>28</sup>. The details can be seen in section B.7.1</p>

### D.2. Assessment that project complies with GS4GG Gender Sensitive requirements

<p>Question 1 - Does the project reflect the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy? Explain how.</p>	<p>As per Gold Standard Gender Policy (<a href="https://globalgoals.goldstandard.org/101-1-g-gold-standard-gender-policy/">https://globalgoals.goldstandard.org/101-1-g-gold-standard-gender-policy/</a>), p. 10</p> <p>“Foundational gender-sensitive requirement - This strengthens Gold Standard’s ‘do no harm’ approach and addresses safeguards to prevent or mitigate adverse impacts on women or men and girls and boys. Such action is mandatory for all projects seeking Gold Standard certification and includes compliance with the gender ‘do no harm’ safeguards, gender gap analysis and gender sensitive stakeholder consultations.”</p> <p>The project being a wind power project is not gender sensitive project. The project does not adversely impact women or men.</p>
---	--

<sup>28</sup> Official record document or invoice will be provided to the VVB during each monitoring period.  
<http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.7221&MevzuatIlski=0&sourceXmlSearch=Su%20Kirilil%C4%9Fi%20Kontrol%C3%BC%20Y%C3%B6netmeli%C4%9Fi>

<p>Question 2 - Does the project align with existing country policies, strategies and best practices? Explain how.</p>	<p>The project does not involve and is not complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis. Turkey is party to Convention on Discrimination since 1972 to prevent any form of discrimination. (<a href="https://www.mfa.gov.tr/convention-on-the-elimination-of-all-forms-of-discrimination-against-women.en.mfa">https://www.mfa.gov.tr/convention-on-the-elimination-of-all-forms-of-discrimination-against-women.en.mfa</a>)</p>
<p>Question 3 - Does the project address the questions raised in the Gold Standard Safeguarding Principles &amp; Requirements document? Explain how.</p>	<p>The Project shall complete the following gender assessment questions (<a href="https://globalgoals.goldstandard.org/101-4-gold-standard-for-the-global-goals-safeguarding-principles-requirements/">https://globalgoals.goldstandard.org/101-4-gold-standard-for-the-global-goals-safeguarding-principles-requirements/</a>) below:</p> <ol style="list-style-type: none"> <li>1. Is there a possibility that the Project might reduce or put at risk women’s access to or control of resources, entitlements and benefits? No, the Project is wind power project does not reduce access to or control of resources for women.</li> <li>2. Is there a possibility that the Project can adversely affect men and women in marginalised or vulnerable communities (e.g., potential increased burden on women or social isolation of men)? No, the Project beneficiaries in terms of employment and social upliftment of the area are common for both the gender. The project does not involve in any form discrimination in any kind of form.</li> <li>3. Is there a possibility that the Project might not take into account gender roles and the abilities of women or men to participate in the decisions/designs of the project’s activities (such as lack of time, childcare duties, low literacy or educational levels, or societal discrimination)? No, this project does not involve in any form discrimination in any kind of form.</li> <li>4. Does the Project take into account gender roles and the abilities of women or men to benefit from the Project’s activities (e.g., Does the project criteria ensure that it includes minority groups or landless peoples)? Yes the project takes into account gender roles and abilities of</li> </ol>

	<p>women/men. Job profile is allocated based on the type of work to be carried out.</p> <p>5. Does the Project design contribute to an increase in women's workload that adds to their care responsibilities or that prevents them from engaging in other activities? No, on the contrary the project leads to increased availability of electricity in the regional grid thereby uplifting the living standards.</p> <p>6. Would the Project potentially reproduce or further deepen discrimination against women based on gender, for instance, regarding their full participation in design and implementation or access to opportunities and benefits? No, since the project is a renewable electricity generation project, thus it will not have discriminated against women.</p> <p>7. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and priorities of women and men in accessing and managing environmental goods and services? No, in fact, the project leads to improved electricity in the regional grid.</p>
<p>Question 4 - Does the project apply the Gold Standard Stakeholder Consultation &amp; Engagement Procedure Requirements? Explain how.</p>	<p>The project is applying for regular GS registration and the Stakeholder Consultation &amp; Engagement Procedure Requirements has been done as explained below.</p> <p>The project owner has organized the complimentary stakeholder consultation meeting according to related requirements of GS4GG for Alize Çamseki 25.6 MW Wind Farm Project, Turkey.</p> <p>In developing a Project, "taking gender issues into account would require that local stakeholder consultation processes reach a wide range of community representatives in ways that ensure equal and effective participation of women and men in consultation, and that gender issues are fully factored into comprehensive social and environmental impact assessments."</p> <p>The general outcome of the stakeholder consultation interview was positive verbally and mukhtar of the Demirtaş village has</p>

	<p>given their comment with a letter. (This letter has been provided to the DOE for renewal crediting (re-validation) process.) That's why there is no need to make physical local stakeholder consultation meeting for renewal crediting period. The stakeholders stated that they are in favour of the project and underlined the significant contribution of the project to regions sustainable image and stressed the importance of renewable and clean energy every time.</p>
--	--

## SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

### E.1 Summary of stakeholder mitigation measures

The stakeholders to the project activity was defined jointly by the project owner and Rüzgar Danışmanlık (Cagla Balci Eris) , who is the consultant to the GS project cycle, taking into account the characteristics and possible impacts of the project activity.

#### **Complementary Stakeholder Consultation**

The documents including the non-technical project summary for renewal crediting period and the Environmental and Social Impact questionnaire related with the Sustainable Development Indicators (SD Assessment) (according to GS4GG requirements) have been delivered to the stakeholders who have been selected as stakeholders to the project activity. The main communication method has been through e-mails and delivery of hard copies of the mentioned documents for those who don't have an email address (specifically the locals) to the mukhtar of Demirtaş village.

The feedback request for renewal crediting period has started on 13/04/2022 with sending out the documents to the stakeholders officially, and verbally on the same day the mukhtar of Demirtaş village and no feedback has been received 13/05/2022. The beginning of Complementary Stakeholder Feedback Round has been announced from the mukhtar's offices, mosques and coffe houses of the Demirtaş village. This public leaflet announcement, emails and documents contain information such as location of available these documents, the procedure to commit comments, timing and the contact's details.

The stakeholders stated that they are in favour of the project and underlined the significant contribution of the project to regions sustainable image and stressed the importance of renewable and clean energy.

List of stakeholders invited to the Complementary stakeholder consultation for the renewal of crediting period:

Category code	Organisation (if relevant)	Name of invitee	Way of invitation	Date of invitation	Confirmation received? Y/N
C	Ministry of Environment and Urbanization	Mehrali Ecer	Via E-mail and phone <a href="mailto:mecer@cob.gov.tr">mecer@cob.gov.tr</a> 0 312 5863052	13/04/2022	Y
C	Ministry of Environment and Urbanization	General	Via E-mail and phone <a href="mailto:iklim@csb.gov.tr">iklim@csb.gov.tr</a> 0 312 5863167	13/04/2022	Y
B	Manisa Provincial Directorate of Environment and Urban Planning	General	Via E-mail and phone <a href="mailto:manisa@csb.gov.tr">manisa@csb.gov.tr</a> 0236 233 84 42	13/04/2022	Y
B	Manisa Forest Regional Directorate	General	Via E-mail and phone <a href="mailto:manisaobm@ogm.gov.tr">manisaobm@ogm.gov.tr</a> 0236 2323639	13/04/2022	Y
B	Manisa Provincial Directorate of Food, Agriculture and Livestock	General	Via E-mail and phone <a href="mailto:manisa@tarimorman.gov.tr">manisa@tarimorman.gov.tr</a> 0 236 2314605	13/04/2022	Y
B	Mayor of Manisa	Cengiz Ergün	Via E-mail and phone <a href="mailto:manisabsb@hs01.kep.tr">manisabsb@hs01.kep.tr</a> 0236 2314580	13/04/2022	Y
D	Manisa Chamber of Commerce and Industry	General	Via E-mail and phone <a href="mailto:info@manisatso.org.tr">info@manisatso.org.tr</a> 0236 2311045	13/04/2022	Y
D	REC Regional Environmental Centre	Rifat Unal Sayman	Via E-mail <a href="mailto:info@rec.org.tr">info@rec.org.tr</a> / <a href="mailto:unal.sayman@rec.org.tr">unal.sayman@rec.org.tr</a>	13/04/2022	Y
A	Headman of Kızılcaoren Village	İksan Ablak	Via face to face	13/04/2022	Y
F	Greenpeace	Genel	Via E-mail and phone <a href="mailto:bilgi.tr@greenpeace.org">bilgi.tr@greenpeace.org</a> 0 212 292 76 19	13/04/2022	Y
F	WWF	Asli Pasinli	Via E-mail <a href="mailto:apasinli@wwf.org.tr">apasinli@wwf.org.tr</a> / <a href="mailto:info@wwf.org.tr">info@wwf.org.tr</a> 0212 528 20 30	13/04/2022	Y
E	Gold Standard Foundation	Neha Rao	Via E-mail <a href="mailto:neha.rao@sustain-cert.com">neha.rao@sustain-cert.com</a>	13/04/2022	Y
F	REEP	Info	Via E-mail <a href="mailto:info@reeep.org">info@reeep.org</a>	13/04/2022	Y
F	MERCY CORPS	Dorothy Mcintosh	Via E-Mail <a href="mailto:dmcintosh@uk.mercy Corps.org">dmcintosh@uk.mercy Corps.org</a>	13/04/2022	Y

## E.2 Final continuous input / grievance mechanism

### Comments apart from the meetings

Until the GS registration of the project activity in 2010 and 2022 complimentary local stakeholder process for second crediting period no comments from the invited stakeholders apart from the meetings have been received, neither by phone calls, by e-mail, by post nor by fax during these seven operational years until 13<sup>st</sup> of May 2022.

The continuous input/grievance mechanism expression method and discussed with the locals which place is convenient for the grievance book (logbook) during the LSC meeting. As a result of discussion, the grievance book was given to the Headman of Demirtaş village. At the same time, the contact details of the project owner, consultant and the GS Manager's were shared with the stakeholders. All of these details have been given in the log book for stakeholders to make any comments they want to write. The PP has checked the comments in the book on a regular basis, and record responses. The grievance (log book) book was checked and no complaints about the project until now. The PP are in a good relationship with the local stakeholders.

In addition, all these documents has been made available under the GS registry webpage as required by GS4GG.

## APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into SECTION D above. Please refer to the instructions in the Guide to Completing this Form.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentiall y/no)	How Project will achieve Requirement s through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
<b>Principle 1. Human Rights</b>			
<ol style="list-style-type: none"> <li>The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights</li> <li>The Project shall not discriminate with regards to participation and inclusion</li> </ol>	No	<p>The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue.</p> <p>2.Project activities are not expected to cause any human rights abuse. As a member of United Nations and part of UN Agreement on Human Rights, it is ensured by law in Turkey that no action can be taken against</p>	N/A

		human rights. <sup>29</sup>	
<b>Principle 2. Gender Equality</b>			
<p>1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women</p> <p>2. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work</p> <p>3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks</p> <p>4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)</p>	No	<p>1.The project does not adversely affect men and women in marginalized or vulnerable communities because it creates stable jobs and incomes for local men and women. The project does not reduce or put at risk women's access to or control of resources, entitlements.</p> <p>2.Kuyucak 25.6 MW Wind Farm Project, Turkey Wind Farm, Turkey project does not involve in any form discrimination in any kind of form. Turkey ratified ILO 100 Equal Remuneration Convention</p>	N/A

<sup>29</sup> <https://www.resmigazete.gov.tr/arsiv/7217.pdf>

		and 111 Discrimination (Employment and Occupation) Convention <sup>30</sup> Therefore, the safeguarding principle related to Gender Equality and Women's Rights is not triggered during the project design and implementation	
<b>Principle 3. Community Health, Safety and Working Conditions</b>			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	Yes	The project owner is committed to the safe and healthy working conditions during all phases of the project. All employees will attend trainings health & safety. This issue is protected by Labor Law and	All the employees are trained about health and safety issues during operation phase of the project.

<sup>30</sup> [http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200\\_COUNTRY\\_ID:102893](http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200_COUNTRY_ID:102893)

		regulations <sup>31</sup> and UN Agreement on Human Rights. <sup>32</sup>	
<b>Principle 4.1 Sites of Cultural and Historical Heritage</b>			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	During the operation of the Kuyucak 25.6 MW Wind Farm Project, Turkey does not do any damage, alteration or removal to the critical cultural heritage. <sup>33</sup> Cultural and environmental heritage is protected against alteration, damage or removal by the law. <sup>34</sup>	N/A
<b>Principle 4.2 Forced Eviction and Displacement</b>			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project does not involve any settlement areas. Thus, this project does not cause the physical or economic	N/A

<sup>31</sup> <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

<sup>32</sup> <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6701.pdf>

<sup>33</sup> Project Introductory Document (PID) page 33

<sup>34</sup> <https://kvmqm.ktb.gov.tr/TR-43249/law-on-the-conservation-of-cultural-and-natural-protect-.html>

		relocation of peoples. The wind farm area is mostly Forestry area <sup>35</sup>	
--	--	---	--

**Principle 4.3 Land Tenure and Other Rights**

<p>a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?</p> <p>b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?</p>	No	<p>The project does not require any changes to land tenure arrangements or other rights. And this Kuyucak 25.6 MW Wind Farm Project, Turkey Wind Farm, Turkey is not involving land-use tenure. Furthermore, there is not any uncertainties with regards land tenure, access rights, usage rights or land ownership. The land of the project had approved by the several local Authorities.<sup>36</sup></p>	N/A
--	----	--	-----

**Principle 4.4 - Indigenous people**

<sup>35</sup> [Project Introductory Document \(PID\) page 30](#)

<sup>36</sup> [Project Introductory Document \(PID\) pages 71 and 72](#)

Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	No cultural heritage/ indigenous people are displaced due to the project.	N/A
<b>Principle 5. Corruption</b>			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	Kuyucak 25.6 MW Wind Farm Project, Turkey does not involve and is not complicit in any kind of corruption Turkey has ratified UN Convention against Corruption and the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. <sup>37</sup>	N/A
<b>Principle 6.1 Labour Rights</b>			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions	Yes	1.The project owner and their subcontractors complying with national labour occupational health and safety laws and with the	All the employees are trained about health and safety issues during operation phase of the project.

<sup>37</sup> <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.3628.pdf>

<p>2. Workers shall be able to establish and join labour organisations</p> <p>3. Working agreements with all individual workers shall be documented and implemented and include:</p> <p>a) Working hours (must not exceed 48 hours per week on a regular basis), AND</p> <p>b) Duties and tasks, AND</p> <p>c) Remuneration (must include provision for payment of overtime), AND</p> <p>d) Modalities on health insurance, AND</p> <p>e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND</p> <p>f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave.</p> <p>4. No child labour is allowed (Exceptions for children working on their families' property requires an <a href="#">Expert Stakeholder</a> opinion)</p> <p>5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures</p>		<p>principles and standards embodied in the ILO fundamental.</p> <p>2. Workers have the right to establish and join the organization if they want it.</p> <p>3. The project owner follows regulations of Labour Law of Turkey. "Working hours" and "occupational injuries" are already protected and monitored with related regulations and law; checked by Ministry of Labor and Social Security in Turkey. "Fair wage" cannot monitor because of "Law on the protection of personnel data" in Turkey.<sup>38</sup> Furthermore, PP always ensure the participation of women and men in project</p>	
---	--	--	--

<sup>38</sup> <https://www.kvkk.gov.tr/SharedFolderServer/CMSFiles/aea97a33-089b-4e7d-85cb-694adb57bed3.pdf>

		<p>activities and benefits. Alize Enerji Elektrik Üretim A.Ş. and appointed subcontractors do not involve in any form forced or compulsory labour Turkey has ratified ILO 29 Forced Labour Convention<sup>39</sup></p> <p>4. Alize Enerji Elektrik Üretim A.Ş. does not employ children in any shape or form for their works. Turkey has ratified ILO 138 Minimum Age Conventions and 182 Worst Forms of Child Labour Convention<sup>40</sup></p> <p>5. The project owner is committed to the safe and healthy working conditions all phases of the project. All employees have been</p>	
--	--	--	--

<sup>39</sup> [http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200\\_COUNTRY\\_ID:102893](http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200_COUNTRY_ID:102893)

<sup>40</sup> [http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200\\_COUNTRY\\_ID:102893](http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO::P11200_COUNTRY_ID:102893)

		attending trainings health & safety. This issue is protected by Labor Law and regulations <sup>41</sup> and UN Agreement on Human Rights <sup>42</sup>	
--	--	--	--

**Principle 6.2 Negative Economic Consequences**

1. Does the project cause negative economic consequences during and after project implementation?	No	The project has only one activity and it is producing electricity using wind energy. It provides the produced energy to the national grid. Other than providing clean energy to the nation, it has no negative impact on local economy during and after project implementation. Furthermore, it has positive impact by providing employment to local people.	N/A
---	----	--	-----

<sup>41</sup> <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

<sup>42</sup> <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6701.pdf>

<b>Principle 7.1 Emissions</b>			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The Project will reduce the emission of 47,971 tCO <sub>2</sub> e/year compared to the Baseline Scenario as it replaces electricity generated from fossil fuel fired power plants with zero emissions electricity from the wind power plant	N/A
<b>Principle 7.2 Energy Supply</b>			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The Project's purpose is to supply clean energy from the wind power plant to the national grid. It does not use energy from a local grid or power supply or fuel resource that provides for other local users.	N/A
<b>Principle 8.1 Impact on Natural Water Patterns/Flows</b>			
Will the Project affect the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project is wind power project thus there is no impact of water resources, natural or pre-existing pattern of watercourses, groundwater and/or the watershed	N/A

		due to the project. Staffs produce the insignificant amount of waste waters, and this wastewater has been collected in an impermeable septic tank and collected via vacuum trucks by Manisa municipality and disposed according to Regulation on Control of Water Contamination.	
<b>Principle 8.2 Erosion and/or Water Body Instability</b>			
a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The Project directly or indirectly does not cause additional erosion and/or water body instability or disrupt the natural pattern of erosion. The project is susceptible to decreased vulnerability to erosion, flooding, drought or water body instability.	N/A
<b>Principle 9.1 Landscape Modification and Soil</b>			
Does the Project involve the use of land and soil for production of crops or other products?	No	This project activity is to generate electricity from wind. It does not involve the use of land	

		and soil for production of crops or other products.	
<b>Principle 9.2 Vulnerability to Natural Disaster</b>			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project is not susceptible to decreased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme conditions.	N/A
<b>Principle 9.3 Genetic Resources</b>			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	Kuyucak 25.6 MW Wind Farm project does not affect the herbal life negatively. Furthermore, the fauna and flora inventories in the project area are prepared and as a result it was seen that here is no endangered flora or fauna in the region. <sup>43</sup>	N/A
<b>Principle 9.4 Release of pollutants</b>			
Could the Project potentially result in the release of pollutants to the environment?	Yes	All wastes are disposed of according to	The wastewater has been

<sup>43</sup> [Project Introductory Document \(PID\) pages between 35 and 47; Kuyucak WPP Ornithology Report 2015 page 106](#)

		related regulations. <sup>44</sup> The environment is also protected by several Laws and Regulations in Turkey (Host Country). The purpose of the "Law on Environmental Protection" is to protect the environment with principles of sustainable development and environment.	collected in an impermeable septic tank and collected via vacuum trucks by Manisa municipality and disposed according to Regulation on Control of Water Contamination. <sup>45</sup>
--	--	---	--

**Principle 9.5 Hazardous and Non-hazardous Waste**

Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The Project producing electricity from the wind power plant to the national grid. Therefore, this WPP does not produce any chemicals or hazardous waste (NOx, SOx, VOC, mercury) quantity and just waste oil has been collected by accredited abatement companies.	
--	----	--	--

<sup>44</sup> [Project Introductory Document \(PID\) pages 15 and 16](#)

<sup>45</sup> Official record document or invoice will be provided to the VVB during each monitoring period.  
<http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.7221&MevzuatIliski=0&sourceXmlSearch=Su%20Kirilil%C4%9Fi%20Kontrol%C3%BC%20Y%C3%B6netmeli%C4%9Fi>

<b>Principle 9.6 Pesticides &amp; Fertilisers</b>			
Will the Project involve the application of pesticides and/or fertilisers?	No	The Project is generating electricity from the wind power plant to the national grid. Therefore, the Project does not involve the application of pesticides and/or fertilizers.	N/A
<b>Principle 9.7 Harvesting of Forests</b>			
Will the Project involve the harvesting of forests?	No	The wind farm area is generally degraded red pine forest, degraded oak, maquis trees and bushes, as well as clearings in the forest. <sup>46</sup> Therefore, the project does not involve harvesting of forest.	
<b>Principle 9.8 Food</b>			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The Project is generating electricity from the wind power plant to the national grid. Therefore, the Project does not modify the quantity or nutritional quality of food available such	N/A

<sup>46</sup>

		as through crop regime alteration or export or economic incentives.	
<b>Principle 9.9 Animal husbandry</b>			
Will the Project involve animal husbandry?	No	The Project does not modify the involve animal husbandry.	N/A
<b>Principle 9.10 High Conservation Value Areas and Critical Habitats</b>			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	Since the proposed project includes only 23 turbines, it is not expected to create significant impacts on the local biological resources and wildlife in the project site. The project area is not a protected area related with the biodiversity, there are no sensitive genes, species and/or habitats existing within the project projects impact boundaries. <sup>47</sup> . The project area is generally	

<sup>47</sup> [Kuyucak WPP Ornithology Report 2012 pages 18 and 19; Kuyucak WPP Ornithology Report 2015 page 106 Project Introduction Document pages between 35 and 47](#)

		<p>degraded red pine forest, degraded oak, maquis trees and bushes, as well as clearings in the forest.<sup>48</sup></p> <p>The project owner also follows necessary procedures for environmental safety at the project site at international standard (such as Bern Convention)<sup>49</sup></p>	
--	--	---	--

**Principle 9.11 Endangered Species**

<p>a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?</p> <p>b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?</p>	<p>No</p>	<p>a. The physical location of the project is described in above principle. There are no endangered species identified as potentially being present the project boundary.<sup>50</sup></p> <p>b. The project activity is not expected either potentially impact other areas where endangered species may be present through</p>	

<sup>48</sup> [Kuyucak WPP Ornithology Report 2015 page 13](#)

<sup>49</sup> [Project Introduction Document pages 33 and 34](#)

<sup>50</sup> [Kuyucak WPP Ornithology Report 2012 pages 18 and 19; Kuyucak WPP Ornithology Report 2015 page 106](#)

		transboundary affects	
--	--	-----------------------	--

## APPENDIX 2- CONTACT INFORMATION OF PROJECT PARTICIPANTS

Organization name	Alize Enerji Elektrik Üretim A.Ş.
Registration number with relevant authority	
Street/P.O. Box	Feneryolu, Mazhar Osman Sk. No:9/1 Kadıköy
Building	Gunes Apt.
City	ISTANBUL
State/Region	Marmara Region
Postcode	34724
Country	Turkey
Telephone	90 (216) 3360148
E-mail	gokhan.ulug@demirerholding.com
Website	www.demirer.com.tr
Contact person	
Title	Demirer Enerji Üretim Sanayi ve Ticaret A.Ş. Group Budget & Planning Manager
Salutation	Mr.
Last name	Uluğ
Middle name	-
First name	Gökhan
Department	Finance
Mobile	
Direct tel.	
Personal e-mail	gokhan.ulug@demirerholding.com

<b>Organization name</b>	Çağla Balcı Eriş- Rüzgar Danışmanlık
Registration number with relevant authority	
Street/P.O. Box	Göztepe Mah. Avcı Sok.
Building	Nursaray Apt.No:1 D:22
City	Kadıköy Istanbul
State/Region	n.a.
Postcode	34720
Country	Turkey
Telephone	+90 216 355 09 68

E-mail	cagla@ruzgardanismanlik.net
Website	www.ruzgardanismanlik.net
Contact person	
Title	Managing Consultant
Salutation	Mrs.
Last name	Balcı Eriş
Middle name	-
First name	Çağla
Department	Management
Mobile	-
Direct tel.	+90 216 355 09 68
Personal e-mail	

## Revision History

Version	Date	Remarks
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an <u>accompanying Guide</u> to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption