



Gold Standard[®]
for the Global Goals

TEMPLATE

MONITORING REPORT

PUBLICATION DATE 14.10.2020

VERSION v. 1.1

RELATED SUPPORT - TEMPLATE GUIDE Monitoring Report v. 1.1

This document contains the following Sections

Key Project Information

SECTION A - Description of project

SECTION B - Implementation of project

SECTION C- Description of monitoring system applied by the project

SECTION D - Data and parameters

SECTION E - Calculation of SDG Impacts

SECTION F- Safeguards Reporting

SECTION G- Stakeholder inputs and legal disputes

KEY PROJECT INFORMATION

Key Project Information

GS ID (s) of Project (s)	GS437
Title of the project (s) covered by monitoring report	Keltepe Wind Farm Project, Turkey
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	0.4
Version number of the monitoring report	0.5
Completion date of the monitoring report	25/07/2025
Date of project design certification	18/09/2009
Date of Last Annual Report	29/11/2024
Monitoring period number	5th
Duration of this monitoring period	03/05/2022-09/07/2023 (Both dates included)
Project Representative	Alize Enerji Elektrik Üretim A.Ş. Rüzgar Karbon ve Enerji Danışmanlık Sanayi Ticaret Limited Şirketi
Host Country	Turkey
Activity Requirements applied	<input type="checkbox"/> Community Services Activities <input checked="" type="checkbox"/> Renewable Energy Activities <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
Methodology (ies) applied and version number	ACM0002: Grid connected electricity generation from renewable sources - Version 20.0
Product Requirements applied	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG 7: Affordable and Clean Energy	T: 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	03/05/2022 to 31/12/2022: 51,706.930	MWh

	I: 7.2.1 "Renewable energy share in the total final energy consumption	01/01/2023 to 09/07/2023: 28,833.744 Total of 03/05/2022 to 09/07/2023: 80,540.674	
SDG 8: Decent Work and Economic Growth	T: 8.5 By 2030 achieve full and productive employment and decent work for all 8.5.2 Unemployment rate, by sex, age and persons with disabilities	The project provides 7 employees	People
SDG 8: Decent Work and Economic Growth	T: 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 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	7 people trained on health and safety issues during this monitoring period	People
SDG 13: Climate Action	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning 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	03/05/2022 to 31/12/2022: 33,547 01/01/2023 to 09/07/2023: 18,707 Total of 03/05/2022 to 09/07/2023: 52,254	GSVERs

Table 2 – Product Vintages

Start Dates	End Dates	VER
03/05/2022	31/12/2022	33,547
01/01/2023	09/07/2023	18,707

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

The Keltepe Wind Farm Project, Turkey (hereafter referred to as the Project) involves the development of a 20.7 MW onshore wind farm located in the Balıkesir province, Susurluk district in Turkey. And this Keltepe Wind Farm Project, Turkey belongs to Alize Enerji Elektrik Üretim A.Ş. The Project involves the installation of 23 turbines Enercon E44 of 900 kW and the development of a medium voltage transmission line between the proposed project area and the national grid. With a total installed power generation capacity of 20.7 MW, the project is estimated to supply grid as 71,366.095 MWh and 46,302 tCO₂-eq per annum and which total to reduction of 325,507 tCO₂-eq over the 2nd 7-year crediting period (CP2) according to registered second PDD. The Project aims to generate electricity from wind energy and feed it to the national electricity grid.

And this project has supplied to grid net 80,540.674 MWh and 52,254 tCO₂ emission reductions during this 5th monitoring 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 to avoid environmental pollution and GHG emissions,
- 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 29.9 MW with another turbines (total 27 turbines) from 20.7 MW in 2017. PP can use only 20.7 MW capacity's electricity generation with 23 turbines. And the PP can use the ratio for metering. For this, the ratio between the electricity generations of 29.9 MW and of 20,7 MW capacities; namely, the ratio between the actual electricity generation of the initial (existing) capacity against the electricity generation of the total capacity has been 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 Keltepe Wind Farm Project (the existing capacity and added capacity) is 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. By applying this ratio to net electricity amount supplied to the national grid, the emission reduction project GS437 under the project activity has been calculated.

Formulation: The following equation has been 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:

$$EG_{pj,y} = EG_{facility,y} * EG_{RATIO,y}$$

Where:

$EG_{PJ,y}$ = Design Certified Quantity of net electricity generation(20.7 MW) supplied to the grid in year y by the project plant/unit that has been added under the project activity (MWh/yr)

$EG_{facility,y}$ = Quantity of total net electricity generation supplied to the grid in year y by the facility (capacity addition and the existing capacity) and measured by the TEİAŞ meters (MWh/yr)

$EG_{RATIO,y}$ = Ratio between electricity generation of the plans/units of the Project Activity (20.7 MW) and the total gross generation of the 29.9 MW facility in year y (%) calculated as per SCADA.

- 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.

Time schedule of the project activity may be seen in in table 3 as followed:

Table 3: Time schedule of the project activity

Event	Actual / Expected	Date
Start of first crediting period	Actual	10/07/2009
Commissioning date of the 1 to 21 wind turbines	Actual	23/07/2009
Commissioning date of the 22-23 wind turbines	Actual	28/04/2010
Gold Standards registration of Project Activity	Actual	18/09/2009
First monitoring period	Actual	10/07/2009-28/02/2010
Second Monitoring Period	Actual	01/03/2010-30/04/2011
Third Monitoring Period	Actual	01/05/2011-30/04/2012
Commissioning date of the T24 wind turbine	Actual	21/11/2014
Second Start and End Crediting Period	Actual	10/07/2016-09/07/2023
Commissioning date of the T25, T26 and T27 wind turbines	Actual	18/12/2016
Fourth Monitoring Period	Actual	03/05/2019-02/05/2022
Fifth Monitoring Period	Actual	03/05/2022-09/07/2023

A.2. Location of project

The Keltepe Wind Farm Project is located in Susurluk district of Balıkesir province, Marmara Region. Location of Turbine T12 (approximate mid-point of the wind farm site) located in the map above is 39057' N 28002' E.

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

Figure 1: The location of the project activity in Marmara Region, Turkey



The nearest place is Kiraz village from Keltepe Wind Farm Project.

Figure 2: Satellite image of the project area



Figure 3 The kmz map of Keltepe WPP with indicating turbine

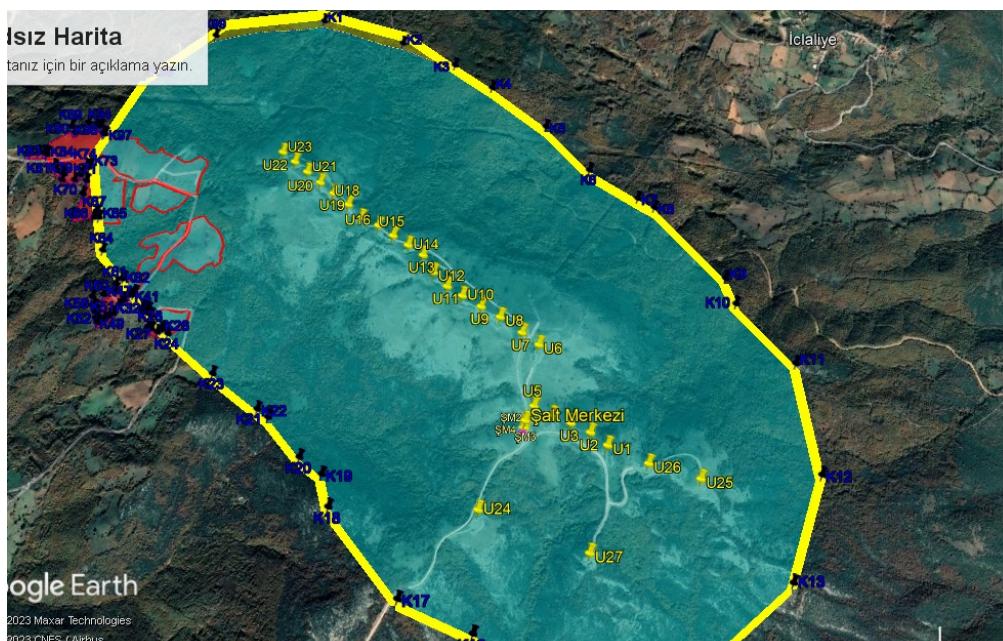


Table 4: Turbine Coordinates¹

	E	N		E	N
T1	5 90 125	44 23 594	T13	5 89 212	44 24 388
T2	5 90 045	44 23 643	T14	5 89 133	44 24 439
T3	5 89 955	44 23 675	T15	5 89 053	44 24 489
T4	5 89 870	44 23 702	T16	5 88 974	44 24 539
T5	5 89 787	44 23 731	T17	5 88 885	44 24 575
T6	5 89 783	44 24 008	T18	5 88 814	44 24 639
T7	5 89 704	44 24 052	T19	5 88 735	44 24 689
T8	5 89 599	44 24 114	T20	5 88 663	44 24 741
T9	5 89 508	44 24 156	T21	5 88 590	44 24 794
T10	5 89 418	44 24 198	T22	5 88 518	44 24 848
T11	5 89 345	44 24 237	T23	5 88 445	44 24 903
T12	5 89 272	44 24 303			

A.3. Reference of applied methodology

The project applies CDM-EB approved “ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0”²

The methodology refers to:

- “Tool for the demonstration and assessment of additionality”, Version 07.0.³
- “Combined tool to identify the baseline scenario and demonstrate additionality”, Version 07.0⁴
- “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”, Version 03.0⁵
- “Tool to calculate the emission factor for an electricity system”, Version 07.0.⁶
- “Tool to determine the remaining lifetime of equipment”, Version 01⁷
- Tool 11 “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” Version 3.0.1⁸

A.4. Crediting period of project

Type of crediting period: Renewable

Date of the first crediting period: 10/07/2009-09/07/2016

Date of the second crediting period: 10/07/2016-09/07/2023

Length: 7 years and 0 months, which is planned to be renewed. (21 years)

¹ Generation License

² <https://cdm.unfccc.int/UserManagement/FileStorage/AG07ZJQ3EXD42LT5YV9HR16M8KINP0>

³ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

⁴ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-02-v7.0.pdf>

⁵ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-03-v3.pdf>

⁶ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

⁷ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-10-v1.pdf>

⁸ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-11-v3.0.1.pdf>

This is second crediting period.

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

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 20.7 MW. The Project includes 23 units of E44 turbines with an output of 900 kW and rotor diameter of 44 m. And another 4 units of E70 E4 turbines with an output of 2,300 kW and rotor diameter of 71 m.

This Keltepe WPP has been connected to the 34.5 kV medium voltage transmission line Göbel 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.⁹

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

Table 5: Technical specifications of the Enercon E44 turbines¹⁰

Parameter	Value
Rated Power	900 kW

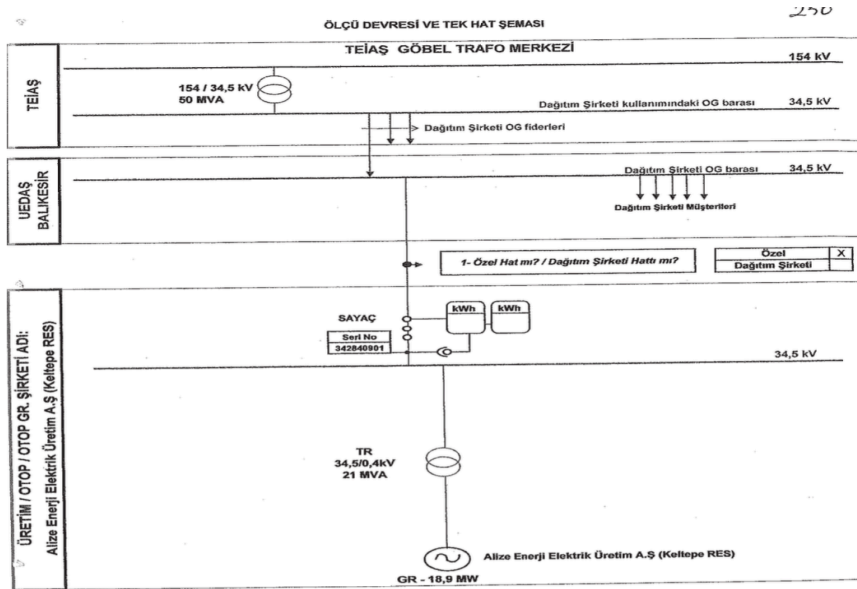
⁹ ["Tool to determine the remaining lifetime of equipment", Version 01
https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf/history_view](https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf/history_view)

¹⁰ <https://en.wind-turbine-models.com/turbines/531-enercon-e-44>

Rotor Diameter	44 m
Number of blades	3
Swept Area	1,521 m ²
Hub Height	45/55m
Rotor Speed	34.0 U/min
Generator Type	Synchronous
Generator Speed, max	34.0 U/min
Generator Voltage	690.0 V
Cut in wind speed	3 m/s
Cut out wind speed	34 m/s

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

Figure 3: Line Diagram of Keltepe Wind Farm Project



The scheme shows the connection points of Keltepe Wind Farm Project with the national grid. The wind farm is connected to Göbel transformer station on 34.5 kV medium voltage level. Two electricity meters are installed at Keltepe WPP. These meters are working in parallel. And the technical details of electricity meters as below Table:

Table 6: Technical specifications of the Electricity Meters:

	Electricity Meter(Primary)	Electricity Meter (Secondary)
Manufacturer	LANDIS	ITRON
Model	ZMD402CT44	SL7000
Serial number	51255646	65007629
Date of installation	28/12/2015	09/12/2013

Date of initial calibration	10/08/2015	12/09/2013
The accuracy of meters	0.5s active	0.5s active

B.1.1 Forward Action Requests

There is not FAR from previous performance review.

B.2. Post-Design Certification changes

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

There is no request for deviation applied during this monitoring period.

B.2.2. Corrections

There are no corrections applied during this monitoring period.

B.2.3. Changes to start date of crediting period

There are no changes to start date of crediting period.

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

There are no permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline.

B.2.5. Changes to project design of approved project

There are no changes to project design of approved project.

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

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 UEDAS Electricity Distribution Company (UEDAS) 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 UEDAS 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 Trade¹¹. 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 measurements. 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. The Enercon SCADA system also stores various data (e.g. electricity generated by each turbine, energy supplied etc.) electronically.

The main meter with serial number 51255646 has installed on 28/12/2015 and secondary meter with serial number 65007629 has installed on 09/12/2013. 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 main source for electricity generation is monthly meter readings and this data measured by meters have been crosschecked with the EPIAS records.

The project's capacity was increased to 29.2 MW in 2017. But PP can use only 20.7 MW capacity's electricity generation. And the PP can use the ratio for metering. Ratio between the electricity generation of the existing addition and the added capacity: Electricity generation of each turbine under Keltepe Wind Farm Project (the existing capacity and added capacity) has been measured continuously with a SCADA system. The total amount of electricity generated from the existing capacity and the added capacity under the proposed project activity has been measured on monthly bases and has been used to calculate the ratio of electricity generation. This ratio has been used to calculate the quantity of net electricity generation supplied to the grid by the project plant that has been added under the project activity.

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 34.5 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 UEDAS. Since UEDAS meters are sealed by UEDAS, the

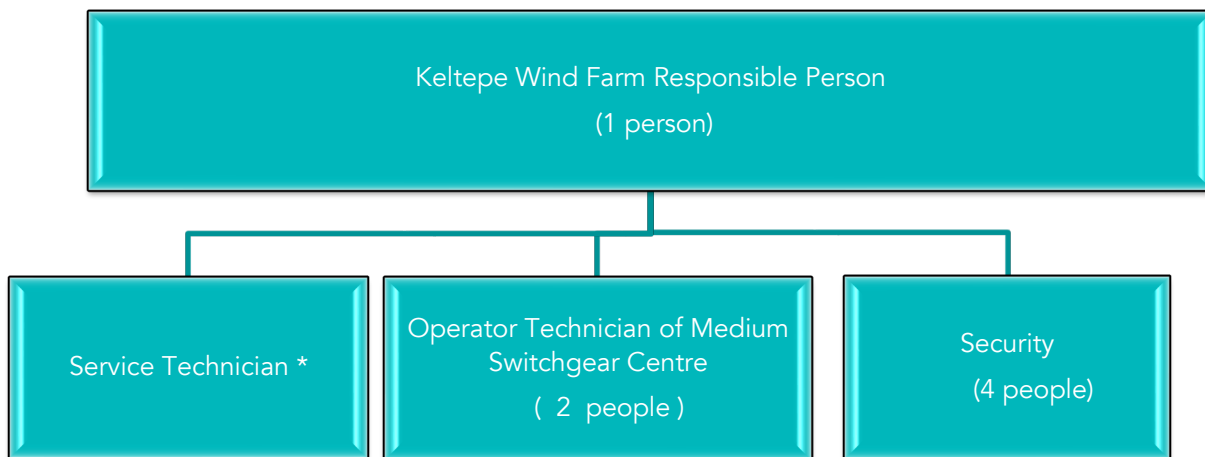
¹¹<https://www.mevzuat.gov.tr/anasayfa/MevzuatFihristDetayIframe?MevzuatTur=7&MevzuatNo=6381&MevzuatTertip=5>

project proponent cannot intervene with the devices.¹² 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 have been 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 Keltepe 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, UEDAS has to be informed for further actions. Reliability and accuracy of monthly values is reached by comparative readings both from the project participant and UEDAS, where high accuracy is guaranteed and needed by the requirements of billing purposes.



*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. (7 people).

¹² <https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=6381&MevzuatTur=7&MevzuatTertip=5>

SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

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

Data/parameter	EF _{CO₂,grid,y}
Unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor for the project electricity system in year y
Source of data	Republic of Turkey Ministry of Energy in Emission Factor 2020 ¹³
Value(s) applied	0.6488
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

D.2 Data and parameters monitored

SDG 7: Affordable and Clean Energy

7.2.1 Renewable energy share in the total final energy consumption

Data / Parameter	EG _{PJ,grid,y}
Unit	MWh
Description	Quantity of electricity generated and supplied by the project power plant to the grid in year y
Source of data	Monthly electricity meter readings
Value(s) applied	Net electricity generation between 03/05/2022-31/12/2022: 51,706.930 MWh Net electricity generation between 01/01/2023-09/07/2023: 28,833.744 MWh Total net electricity generation between 03/05/2022-09/07/2023: 80,540.674 MWh

¹³https://enerji.gov.tr//Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/2020_Sebeke_EF.pdf

Measurement methods and procedures	The net electricity generation supplied to the grid has been measured continuously by TEAIS meters (both main and spare) and recorded monthly.																						
Monitoring frequency	<p>Continuous measurement and at least monthly recording. (Automatic meter reading system-OSOS) The accuracy of meters is given as 0.5s active class</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>LANDIS</td> <td>ITRON</td> </tr> <tr> <td>Model</td> <td>ZMD402CT44</td> <td>SL7000</td> </tr> <tr> <td>Serial number</td> <td>51255646</td> <td>65007629</td> </tr> <tr> <td>Date of installation</td> <td>28/12/2015</td> <td>09/12/2013</td> </tr> <tr> <td>Date of initial calibration</td> <td>10/08/2015</td> <td>12/09/2013</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> <p>Calibration frequency: According to the Article 9 of the relevant regulation¹⁴ , periodical inspections of “gauges for electric, water, coal gas, natural gas and, current and voltage measuring transformers will be made once in 10 years”. This is in line with the monitoring plan and national requirements. UEDAS 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>Date of initial calibration: 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: “UEDAS is responsible for calibration and maintenance of the devices. If any difference occurs between primary and secondary device UEDAS performs necessary calibration”</p>			Electricity Meter(Primary)	Electricity Meter (Secondary)	Manufacturer	LANDIS	ITRON	Model	ZMD402CT44	SL7000	Serial number	51255646	65007629	Date of installation	28/12/2015	09/12/2013	Date of initial calibration	10/08/2015	12/09/2013	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	LANDIS	ITRON																					
Model	ZMD402CT44	SL7000																					
Serial number	51255646	65007629																					
Date of installation	28/12/2015	09/12/2013																					
Date of initial calibration	10/08/2015	12/09/2013																					
The accuracy of meters	0.2s active 0.5 re-active	0.2s active 0.5 re-active																					
QA/QC procedures	<ul style="list-style-type: none"> • Measurements are undertaken using energy meters. • 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 																						

¹⁴ “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>

	<p>Electricity Market, which describes the minimum accuracy requirement the metering devices have to fulfil, which are categorized according to the installed capacity.</p> <ul style="list-style-type: none"> • Maintenance and calibration of UEDAS meters have been carried out according to the System Usage Agreement. Since UEDAS meters are sealed by UEDAS the project proponent cannot intervene with the devices¹⁵. • 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 have been crosschecked with the EPIAS records. Also, SCADA can use for checking this kind of data's if VVB wants to check them.
Purpose of data	Baseline/emission reductions calculations
Additional comment	-

SDG 8: Decent Work and Economic Growth

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

Data / Parameter	Number of employment generation
Unit	Number
Description	Number of people employed directly due to the project activity
Source of data	SGK Records
Value(s) applied	The project provides 7 employments
Measurement methods and procedures	The total number of persons working in the plant would be calculated based on the SGK Records
Monitoring frequency	Once for each monitoring period
QA/QC procedures	Social insurance registries of employees have been provided annually.
Purpose of data	-

¹⁵ <http://www.mevzuat.gov.tr/MevzuatMetin/1.5.3516.doc>

Additional comment	-
---------------------------	---

Relevant SDG Indicator	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.
Data / Parameter	Health and Safety Training Records
Unit	Number of people per monitoring period
Description	Number of people trained on health and safety issues during per monitoring period
Source of data	Training Records or Certificates
Value(s) applied	7 employees have taken health and safety training during this monitoring period.
Measurement methods and procedures	The total number of Health and Safety training based on Training Records or Certificates
Monitoring frequency	Once for period each monitoring
QA/QC procedures	Training records or certificates have been provided
Purpose of data	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
Additional comment	n.a

Name/Sur name	Position	Training given by	Subject	Training Date	Record	Content
Ahmet M.	High voltage Switch gear operators	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety
Abdullah A.	High voltage Switch gear operators	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety
Mustafa A.	High voltage Switch gear operators	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational

						Health and Safety
Ömer E.	Electrical Engineer	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety
Yıldırım B.	Security Personnel	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety
Şaban A.	Security Personnel	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety
Rıfkı A.	Security Personnel	Altınbaşak OSGB/Başak OSGB	General occupational health and safety	15-16/09/2022	Certificate or Attendance List	Basic Training about General Occupational Health and Safety

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

Data / Parameter	ER _y
Unit	tCO ₂ /y
Description	Emission Reductions in year y (t CO ₂ /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.
Source of data	Measured and calculated. (The emission reduction value the emission factor of the grid to which the project exports electricity (0.6488 tCO ₂ /MWh) and net electricity generated)
Value(s) applied	03/05/2022 to 31/12/2022: 33,547 tCO ₂ 01/01/2023 to 09/07/2023: 18,707 tCO ₂ 03/05/2022 to 09/07/2023: 52,254 tCO ₂
Measurement methods and procedures	Please see B.6.2 for more detailed description of the monitoring plan.
Monitoring frequency	Once for each monitoring period

QA/QC procedures	Republic of Turkey Ministry of Energy in Emission Factor 2020 ¹⁶
Purpose of data	-
Additional comment	-

D.3. Comparison of monitored parameters with last monitoring period

Not applicable

D.4. Implementation of sampling plan

Not applicable

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation 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. The project is expected to generate 71,366.095 MWh of clean energy per annum. Net generation is as below.

$$\text{Net Generation (MWh)} = \text{Electricity Supplied to the Grid (MWh)} - \text{Electricity Consumption from the Grid (MWh)}$$

Net electricity generation is 80,540.674 MWh during this monitoring period. The net generation and internal consumption identified and approved by authorized EPIAS.

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 7 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 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”

¹⁶https://enerji.gov.tr//Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/EmisyonFaktorleri/2020_Uretim_Tuketim_EF.pdf

The target has been monitored by the number of full-time employees with the Social Security Agency’s records during the verification process. So, the baseline value for 8.5.2 (Unemployment rate, by sex, age and persons with disabilities) is 0. The other monitored parameter is Health and Safety Training for the indicator 8.8.2. Since there would have been no training offered if the project did not exist, this baseline is also 0.

SDG13: Climate Action:

The project leads to mitigation of 46,302 tCO₂ per annum and 52,254 tCO₂ during this monitoring period. 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”

Baseline Emissions

The baseline emissions are calculated as follows:

$$BE_y = EG_y * EF_{CO_2,i,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

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

EF_{CO₂,i,y} = CO₂ emission factor of fuel type i in year y (tCO₂/MWh)

Hence,

$$BE_y = 80,540.674 \text{ MWh} \times 0.6488 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 52,254 \text{ tCO}_2$$

Vintage	EG Net electricity supplied to the grid [MWh]	EF [tCO ₂ /MWh]	Baseline emission: BE = EG * EF [t CO ₂ -eq]
2022 (03/05/2022- 31/12/2022)	51,706.930	0,6488	33,547
2023 (01/01/2023- 09/07/2023)	28,833.744	0,6488	18,707

TOTAL (03/05/2022 - 09/07/2023)	80,540.674	0,6488	52,254
--	------------	--------	--------

E.2. Calculation of project value or estimation of project situation 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.

Vintage	(A) Electricity supplied to the grid [MWh]	(B) Electricity consumption from the grid [MWh]	(C) = (A) - (B) EG Net electricity supplied to the grid [MWh]
2022 (03/05/2022- 31/12/2022)	51,724.484	17.554	51,706.930
2023 (01/01/2023- 09/07/2023)	28,869.990	36.246	28,833.744
TOTAL (03/05/2022 - 09/07/2023)	80,594.474	53.800	80,540.674

Only first 23 registered turbines’ electricity generation has used for ER calculation in this GS project. Another 4 unregistered turbines’ electricity generation has not added in this last monitoring report of CP2. Briefly, PP use only the renewable electricity energy producing of 23 turbines as SDG 7 and claim the ERs of these turbines as SDG13 during this monitoring period.

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 7 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”. 7 people has taken 1 health and safety training per year during this monitoring period.

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” and following target 13.3 “Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning”

E.3. Calculation of leakage

Leakage emission is considered as “0” as suggested in ACM0002 Version 20.0

E.4. Calculation of net benefits or direct calculation for each SDG Impact

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
7	Affordable and Clean Energy	0	80,540.674 MWh	80,540.674 MWh
8	Decent Work and Economic Growth	0	7 people employed	7 people employed
8	Decent Work and Economic Growth	0	All employed has taken Health and Safety Training	All employed has taken Health and Safety Training
13	Climate Action	52,254 tCO ₂	0	52,254 tCO ₂

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period
7	84,661.696 MWh	80,540.674 MWh
8	7 people employed	7 people employed
8	All employed are trained during the monitoring period	All employed has taken Health and Safety Training
13	54,927 tCO ₂ /MWh	52,254 tCO ₂ /MWh

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

The expected annual electricity generation value is 71,366.095 MWh and emission reduction are 46,302 tCO₂ ;the electricity generation value is **84,661.696 MWh** and

emission reduction are 54,927 tCO₂ for this monitoring period according to registered PDD for CP2 crediting period. And PP has monitored 433 days (between 03/05/2022 and 09/07/2023), PP has calculated 52,254 tCO₂ emission reduction and 80,540.674 MWh electricity generation of 2nd crediting period for this 5th monitoring period.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

The monitoring period covers the approximately 14 months operation.

The comparison shows that the actual emission reduction is 52,254 tCO₂ a lower (approximately 4.9 %) than the expectation 54,927 tCO₂ according to the registered PDD. And the comparison shows that the actual net electricity generation is 80,540.674MWh a lower (approximately 4.9 %) than the expectation generation 84,661.696 MWh in the registered PDD of 2nd crediting period. These values are low according to expectation values because of low wind speed conditions.

SECTION F. SAFEGUARDS REPORTING

The project takes a precautionary approach regarding environmental challenges and is not complicit in practices contrary to the precautionary principle.

Relevant SDG Indicator/Safeguarding Principle	Safeguarding Principle 9.4: Release of pollutants
Data / Parameter	Water Quality and Quantity (Disposal of the waste water)
Unit	N/A
Description	During the construction and operation phases, domestic wastewater produced by workers collected in impermeable septic tanks. This wastewater is collected by vacuum trucks of the Municipality of Balikesir and disposed according to Regulation on Waste Water Control.
Source of data	Records of transfer of waste water from power plant by vacuum truck
Value(s) applied	One invoice of transfer of waste water from power plant by vacuum truck with dated 12/12/2022
Measurement methods and procedures	N/A
Monitoring frequency	Once for each monitoring period
QA/QC procedures	N/A
Purpose of data	To monitor compliance to Safeguarding Principle 9.4 (Release of pollutants)
Additional comment	-

Relevant SDG Indicator/Safeguarding Principle	Safeguarding Principle 9.11 Endangered Species - Biodiversity
Data / Parameter	Birds observation
Unit	N/A
Description	Ensuring that the project creates no disturbance to the regional habitat
Source of data	Regular site vetting for bird/bat nests and carcasses and recording on logbook by appointed personnel. This has been provided to the VVB
Value(s) applied	According to the weekly observation between 03/05/2022 and 09/07/2023, there is no bird/bat nests and carcasses and recording on logbook by appointed personnel until now
Measurement methods and procedures	Observations around the project area has been done for monitoring birds and carcass
Monitoring frequency	Once for each monitoring period
QA/QC procedures	Records of regular observations have been kept
Purpose of data	To monitor compliance to Safeguarding Principle 9.11
Additional comment	-

Principles	Way of Monitoring-When / Mitigation Measures added to the Monitoring Plan	Chosen Data/ Parameter
Principle 1- Human Rights	Not Required	Not Required
Principle 2- Gender Equality	Not Required	Not Required
Principle 3-Community Health, Safety and Working Conditions	<p>All the employees have been trained about health and safety issues during operation phase of the project.</p> <p>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</p>	<p>Health and Safety Training Records/ Once for period each monitoring</p>

	workers, including migrant workers, in particular women migrants, and those in precarious employment 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	
Principle 4-Cultural Heritage, Indigenous Peoples, Displacement and Resettlement	Not Required	Not Required
Principle 4.1- Sites of Cultural and Historical Heritage	Not Required	Not Required
Principle 4.2 Forced Eviction and Displacement	Not Required	Not Required
Principle 4.2 Forced Eviction and Displacement	Not Required	Not Required
Principle 4.3 Land Tenure and Other Rights	Not Required	Not Required
Principle 5. Corruption	Not Required	Not Required
Principle 6.1 Labour Rights	Not Required	Not Required
Principle 6.2 Negative Economic Consequences	Not Required	Not Required
Principle 7.1 Emissions	Not Required	Not Required
Principle 7.2 Energy Supply	Not Required	Not Required
Principle 8.1 Impact on Natural Water Patterns /Flows	Not Required	Not Required
Principle 8.2 Erosion and/or Water Body Instability	Not Required	Not Required
Principle 9.1 Landscape Modification and Soil	Not Required	Not Required
Principle 9.2 Vulnerability to Natural Disaster	Not Required	Not Required
Principle 9.3 Genetic Resources	Not Required	Not Required

Principle 9.4 Release of pollutants	During the operation phases, domestic wastewater produced by workers collected in impermeable septic tanks. This wastewater is collected by vacuum trucks of the Municipality of Balikesir and disposed according to Regulation on Wastewater Control.	Water Quality and Quantity (Disposal of the waste water) /Once for period each monitoring
Principle 9.5 Hazardous and Non-hazardous Waste	Not Required	Not Required
Principle 9.6 Pesticides & Fertilisers	Not Required	Not Required
Principle 9.7 Harvesting of Forests	Not Required	Not Required
Principle 9.8 Food	Not Required	Not Required
Principle 9.9 Animal husbandry	Not Required	Not Required
Principle 9.10 High Conservation Value Areas and Critical Habitats	Not Required	Not Required
Principle 9.11 Endangered Species	Observations around the project area have been done for monitoring birds and carcass	Birds Observation/Once for period each monitoring

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations

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 Kiraz village. This is the last monitoring period of the CP2 period and there is no input received via the Continuous Input and Grievance Mechanism during the approximately fourteen years. The PP has meet with the stakeholders and talk with them and there is no negative feedback or comment on the grievance mechanism notebook. Furthermore, the stakeholders reach the PP whenever they want to talk related with the project or request about everything.

G.2. Report on any stakeholder mitigations that were agreed to be monitored

They were agreed no SDG monitoring parameter to be monitored when the PP asked the stakeholder during the 2nd crediting renewal period which has approved on 10/03/2023 by GS. And there are no changes during this 5th monitoring period of project.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

No legal contest that has arisen with the project during the monitoring period.

Revision History

Version	Date	Remarks
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption