



Gold Standard
for the Global Goals

TEMPLATE

MONITORING REPORT

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VERSION **v. 1.1**

RELATED SUPPORT – **TEMPLATE GUIDE Monitoring Report v. 1.1**

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KEY PROJECT INFORMATION

Key Project Information

GS ID (s) of Project (s)	GS905
Title of the project (s) covered by monitoring report	Sah Wind Power Plant
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	v0.5.1 06/11/2018
Version number of the monitoring report	0.4
Completion date of the monitoring report	25/07/2024
Date of project design certification	15/11/2018
Date of Last Annual Report	n.a.
Monitoring period number	5 th (3 rd of second crediting period)
Duration of this monitoring period	01/10/2022 to 31/03/2024
Project Representative	Rüzgar Karbon ve Enerji Danışmanlık Sanayi Ticaret Limited Şirketi
Host Country	Turkey
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	ACM0002 Version 18.0
Product Requirements applied	x GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ 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 I: 7.2.1 "Renewable energy share in the total final energy consumption	01/10/2022 to 31/12/2022: 92,496.376 01/01/2023 to 31/12/2023: 316,424.663 01/01/2024 to 31/03/2024: 77,955.168 Total of 01/10/2022 to 31/03/2024: 486,876.207	MWh per annum
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 20 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	20 people trained one on health and safety issues per year during this monitoring period	All
SDG 13: Climate Action	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation,	01/10/2022 to 31/12/2022: 51,844	tCO ₂ e per annum

	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	01/01/2023 to 31/12/2023: 177,356 01/01/2024 to 31/03/2024: 43,693 Total of 01/10/2022 to 31/03/2024: 272,893	
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Table 2 – Product Vintages

		Amount Achieved
Start Dates	End Dates	VERs
01/10/2022	31/12/2022	51,844
01/01/2023	31/12/2023	177,356
01/01/2024	31/03/2024	43,693

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

The main purpose of this project activity is to generate electricity from a Wind Power Plant and supply of power generated to the Turkey national grid. Galata Wind Enerji A.S. has installed Sah WPP with 105 MWm/105 MWe installed capacity in Bandirma district of Balikesir and Karacabey district of Bursa, Turkey. Sah Wind Power Plant has 35 turbines of which 24 turbines are in Balikesir province, and 11 turbines are in Bursa province, each having an output of 3.0 MW.

Project expects to generate and supply a net amount of 306,566 MWh of electricity per year to the grid, utilizing a renewable source, and expects to reduce 171,828 tCO₂-eq annually by replacing non-renewable generation sources in the national grid for the 2nd crediting period.

The connection of the project to the National Electricity System is done via 35 km transmission line to the 154 kV Göbel Transformer Station. The project operational lifetime is 49 years.

The project replaces anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 171,828 tCO₂e per annum for the second crediting period, thereon displacing 306,566 MWh/year amount of electricity from the generation- mix of power plants connected to the electricity grid, which is mainly dominated by thermal/fossil fuel based power plant. The project leads to reduction in GHGs and achieve sustainable development of the host country.

In the beginning phase, 31 turbines were fully commissioned. After the completion of the construction works and commissioning, the project was taken over by Doğan Enerji Yatırımları San. ve Tic. A.Ş. in June 2012. In the further stages of the project, the company decided to increase the total installed capacity of the project to 105 MWm/105 MWe with additional 4 Vestas V90 / 3000 kWe type wind turbines. The total estimation annual electricity generation of the project is calculated as 341,275 MWh/yr with 35 turbines-105 MWe according to Wind Assessment Report.

But in the years between 2011 and 2017, the average annual net electricity export to the grid was only approximately 293,479 MWh/yr. And the same WPP had produced annual average of 306,566 MWh between years 2015 and 2017 with 35 turbines. So, the PP uses the amount of 306,566 MWh as annual average for the second crediting period. (15/11/2018-14/11/2025). And expected total of reduction of 1,202,795 tCO₂-eq over the 7-year crediting period.

Due to its significant contribution to climate change mitigation and sustainable development in the region, this project is expected to fulfil the requirements of the Gold Standard for Global Goals rigorously.

The project helps Turkey to stimulate and commercialize the use of grid connected renewable energy technologies and markets. It demonstrates the viability of wind power plants which support improved energy security, improved air quality, alternative sustainable energy futures, improved local livelihoods and sustainable renewable energy industry development.

This electricity amount has contributed to the following goals:

- Reducing greenhouse gas emissions in Turkey compared to business-as-usual scenario,
- Helping to stimulate the growth of wind power industry in Turkey,
- Creating local employment during the operation phase of the plant,
- Helping to reduce Turkey's increasing energy deficit and
- Diversifying the electricity generation mix and reducing import dependency.

The project activity milestones are:

Date	Milestone
License obtained from EMRA	10/04/2008
Start Date of the Construction	06/08/2010
Commissioning date of the first phase of the plant (21 x 3 = 63 MW)	19/05/2011
Commissioning of the second phase (9 x 3 = 27 MW)	03/06/2011
Commissioning of the last phase (1 x 3= 3 MW)	29/07/2011
Start of first crediting period and first monitoring period	15/11/2011
Additional Protocol signed with VESTAS for the capacity addition	10/02/2012
License Amendment (Increase in number of turbines as 35 turbines)	04/04/2012
License Amendment (Change of corporate name to Galata Wind Enerji A.Ş.)	11/06/2012
Galata Wind Enerji A.Ş. is taken over by Doğan Enerji	20/06/2012
Commissioning Date of the last additional 4 turbines phase (4 x 3= 12 MW)	24/05/2013
Gold Standards registration of Project Activity	06/11/2013
First crediting period	15/11/2011-14/11/2018
3 rd monitoring period	01/06/2018 28/02/2021
Renewal of crediting period approved by GS (Re-validation)	15/11/2018
Second crediting period	15/11/2018-14/11/2025
4 th monitoring period	01/03/2021 30/09/2022
5 th monitoring period	01/10/2022 31/03/2024

A.2. Location of project

The project is located in Marmara Region in Bandirma district of Balıkesir and Karacabey district of Bursa, in Turkey. The project area is amongst Sahmelek Village, Yenice Village and Dedeoba Village.

The coordinates of the turbines are as the following:

Table 1: Turbine Coordinates ¹

Turbine	E	N
T1	601446	4469492
T2	601695	4469465
T3	601926	4469480
T4	601743	4470297

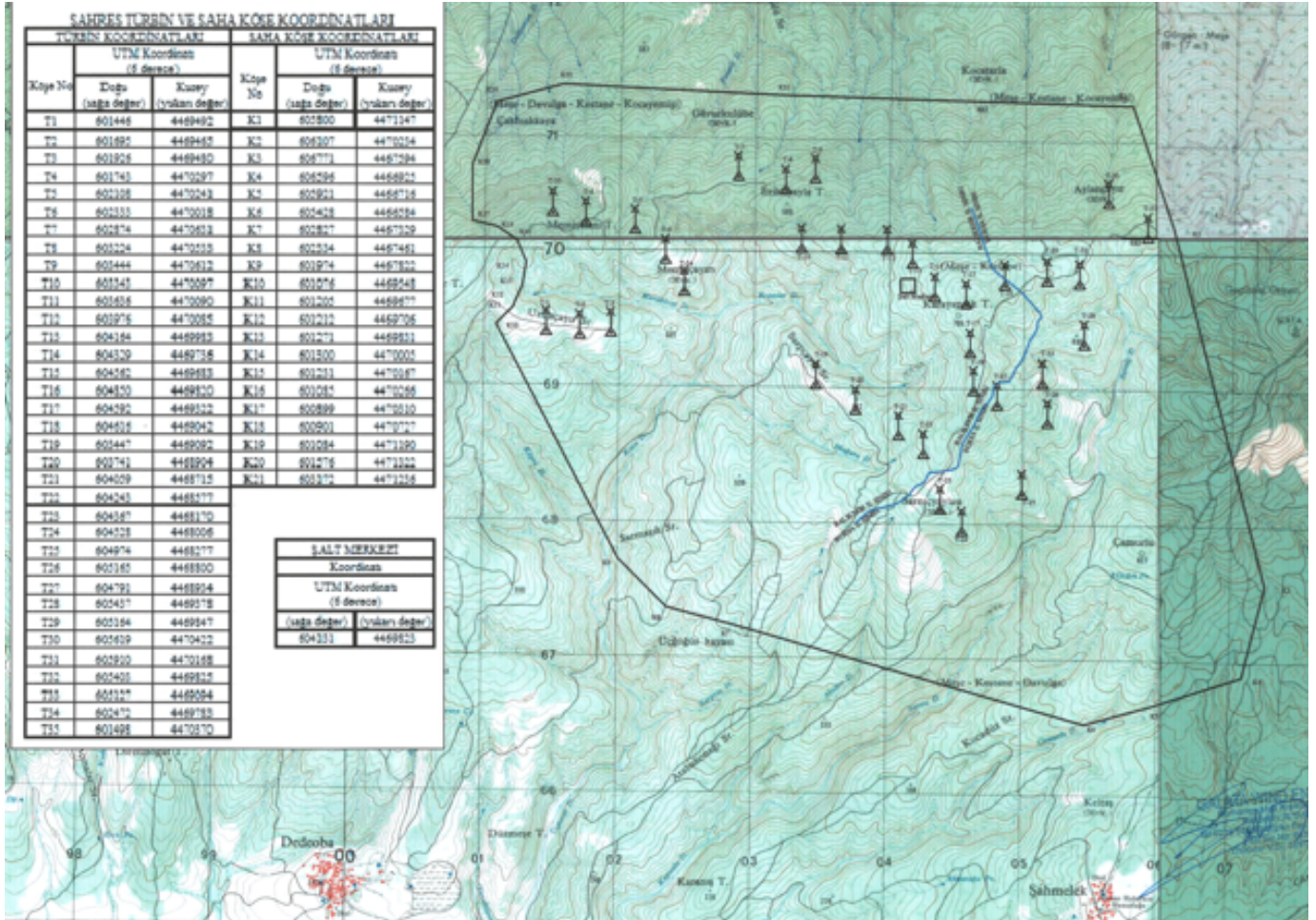
¹ Source: Generation License

T5	602108	4470241
T6	602333	4470018
T7	602874	4470631
T8	603224	4470533
T9	603444	4470612
T10	603343	4470097
T11	603636	4470090
T12	603976	4470085
T13	604164	4469983
T14	604329	4469736
T15	604562	4469683
T16	604850	4469820
T17	604592	4469322
T18	604616	4469042
T19	603447	4469092
T20	603741	4468904
T21	604059	4468715
T22	604243	4468577
T23	604367	4468170
T24	604528	4468006
T25	604974	4468277
T26	605165	4468800
T27	604791	4468934
T28	605437	4469378
T29	605164	4469847
T30	605619	4470422
T31	605910	4470168
T32	605403	4469825
T33	605127	4469094
T34	602472	4469783
T35	601498	4470370

Figure 1: Project Location on Turkey Map



Figure 2: Site Layout of 35 turbine



A.3. Reference of applied methodology

The project applies CDM-EB approved ACM0002: Grid-connected electricity generation from renewable sources - Version 18.0.²

Sectoral Scope: 01 Energy industries (renewable - / non-renewable sources)

The methodology refers to:

- Tool to calculate the emission factor for an electricity system, Version 06.0.0³
- Combined tool to identify the baseline scenario and demonstrate additionality, Version 06.0.0⁴
- Tool for demonstration and assessment of additionality, Version 07.0.0⁵
- Tool to determine the remaining lifetime of equipment, Version 01⁶

A.4. Crediting period of project

Type of crediting period: Renewable

Date of the crediting period: 15/11/2011- 14/11/2018

Date of the second crediting period: 15/11/2018 -14/11/2025

Length: 7 years 0 months, this is planned to be renewed twice

This is second crediting period.

² <https://cdm.unfccc.int/filestorage/2/L/9/2L9KQXT6HGREJWO84VD0IPYB7U5SMA/Grid-connected%20electricity%20generation%20from%20renewable%20sources.pdf?t=T1h8cXM4YzQxfDCBdTe6T50rhUgmgd1cxJ3b>

³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v6.pdf>

⁴ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-02-v6.0.pdf>

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

⁶ https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-10-v1.pdf/history_view

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

The project has 35 wind turbines with a unit capacity of 3,000 kWm /3,000 kWe. With a total installed capacity of of 105 MWm/105 MWe. The full commissioning date of the project activity was 24/05/2013.

All the WTGs have run successfully during the reported monitoring period. All the physical and technical features as stated in the registered PDD are in place and project has been operated as described in the registered PDD. There were no significant overhaul times, downtimes of equipment, any other special events or emergency reported for the project during the monitoring period between 01/03/2021– 30/09/2022.

There is 35 Vestas V90 type of wind turbines with 90 m rotor consisting of three blades and the hub., each having an output of 3000 kWm/3000 kWe (total capacity 105.0 MWm / 105 MWe). The equipment's were provided from Vestas which is one of the largest suppliers of wind turbines in the world.

The delivered electricity is being metered at 154 kV high voltage side of the step-up transformer installed at the project site. The meters measure the electricity delivered to the grid and also the electricity traction from the grid.

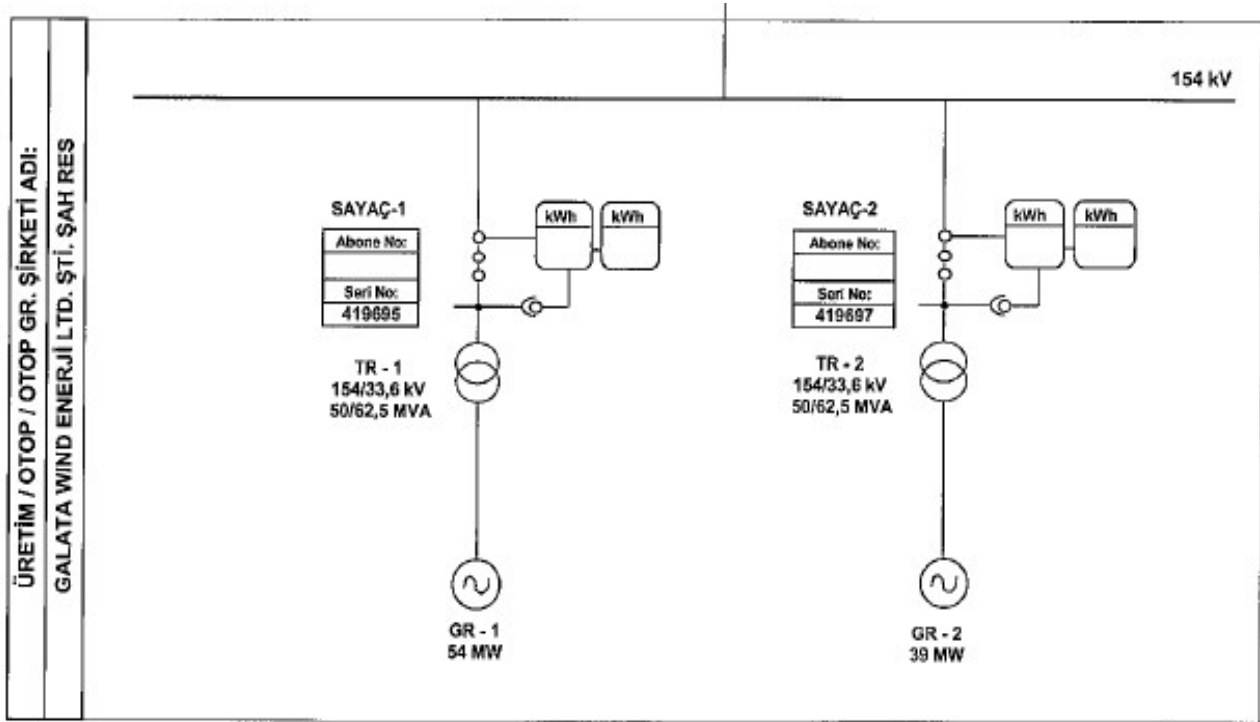
The wind turbines of the plant are to be supplied from Vestas which is the world's leading company in wind power technologies. The technology used in the plant includes first wind turbines and its auxiliary equipment's with extensive automatization.

Table 2 Technical specifications of V90 turbines

Parameter	Value
Rated Power	3,000 kW
Rotor Diameter	90 m
Gearbox Type	2 Helical stages ,1 Plenatary stage
Number of blades	3
Swept Area	6.362 m2
Hub Height	80 m
Cut out wind speed	25 m/s

The scheme below shows the connection points of Sah Wind Power Plant with the national grid. The Sah Wind Power Plant has to be connected to the national grid via 154 kV TM.

Figure 3 Line Diagram of Sah Wind Power Plant



B.1.1 Forward Action Requests

FAR 1: PD is requested in the following years of monitoring to follow the GS Principles and requirements. 5.1.39 "An annual report shall be submitted for each monitoring year by end of next calendar year for which verification is not completed. If a verification is in progress but not completed, then an Annual Report is still required by the end of calendar year.

PP Response 1: PP submits an annual report for each monitoring year by end of next calendar year for which verification is not completed.

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. The start date of 2nd CP is as 15/11/2018 and end date is 14/11/2025.

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:

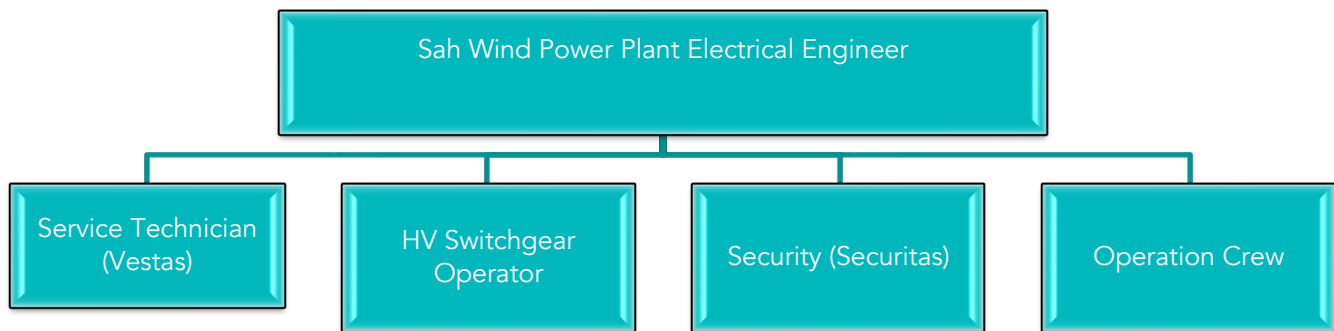
Monitoring data is collected in accordance with the agreement done between the project owner and TEİAŞ which provides the infrastructure for the connection to the national grid. The metering system is defined in the agreement as two groups: main meter and spare meter. The role of the second meter is to check if the main meter measures the generated electricity accurately. The design of the metering system is checked and approved by TEİAŞ 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 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.

Data have 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 Participant has been responsible for storage of data received from the measuring devices.

The main and spare meter readings are recorded monthly and cross-checked whether calibration is required. The capacity of the transmission line connected is 154 kVA, the accuracy class for power meters have been defined in the Communiqué for Power Meters

as 0.5S class. The calibration is implemented in accordance with the related standard procedures. The periodical maintenance is under the responsibility of TEİAŞ and has been fixed as once in 10 years. Since TEİAŞ meters are sealed by TEİAŞ, the project proponent cannot intervene with the devices. The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import.

The Project aims to create employment opportunities in the project region in a sustainable way. The Project proponent prefers to prioritize personnel from the project region, which is defined as a Gold Standard indicator to be verified for each monitoring period. It is between 20 and 25 employees permanent during the operation of the plant. Roles and responsibilities have been summarized in the following chart:



SECTION D. DATA AND PARAMETERS

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

Relevant SDG Indicator	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
Data/parameter	EG _{gross}
Unit	MWh
Description	Gross electricity production by fossil fuel power sources (2014-2016)
Source of data	TEİAŞ (Turkish Electricity Transmission Company) www.teias.gov.tr . The distribution of gross electricity generation by primary energy resources and the electricity utilities in Turkey (2014, 2015, 2016).
Value(s) applied	Year 2014: 198,984,000 MWh Year 2015: 177,608,000 MWh Year 2016: 183,426,500 MWh

Choice of data or Measurement methods and procedures	TEIAS, the Turkish Electricity Transmission Company is the official source for the related data, thus providing the most up-to-date and accurate information available.
Purpose of data	Calculation of baseline emissions-to demonstrate contribution to SDG13- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Additional comment	-

Relevant SDG Indicator	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				
Data/parameter	FC _{i,y}				
Unit	tonnes (m3 for gaseous fuels)				
Description	Amount of fossil fuel type i consumed in the project electricity system by generation sources in year y (2014-2016)				
Source of data	TEIAS (Turkish Electricity Transmission Company) www.teias.gov.tr . Fuels consumed in thermal power plants in Turkey by the electricity utilities (2014-2016)				
Value(s) applied		Units	2014	2015	2016
	Natural Gas	1000m3	25,426,014	20,914,868	18,954,093
	Lignite	tons	57,696,139	49,940,131	60,213,772
	Coal	tons	14,501,934	16,629,492	19,642,410
	Fuel Oil	tons	754,283	516,912	526,674
	Diesel Oil	tons	119,988	238,388	306,393
	Lpg	tons	0	0	0
	Naphtha	tons	0	0	0
Choice of data or Measurement methods and procedures	TEIAS, the Turkish Electricity Transmission Company is the official source for the related data, thus providing the most up-to-date and accurate information available.				
Purpose of data	Calculation of baseline emissions-to demonstrate contribution to SDG13- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning				
Additional comment					

Relevant SDG Indicator	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																																						
Data/parameter	NCVi,y																																						
Unit	TJ/kt (106 m3 for gaseous fuels)																																						
Description	Net calorific value (energy content) of fossil fuel type i in year y																																						
Source of data	Calculated based on TEIAS (Turkish Electricity Transmission Company) www.teias.gov.tr Heating values of fuels consumed in thermal plants in Turkey by the electricity utilities (2014-2016)																																						
Value(s) applied		<table><tr><th rowspan="2"></th><th colspan="3">NCVi(TJ/kt)</th></tr><tr><th>2014</th><th>2015</th><th>2016</th></tr><tr><td>Natural Gas</td><td>37.49</td><td>37.837</td><td>38.011</td></tr><tr><td>Lignite</td><td>7.11</td><td>7.161</td><td>7.196</td></tr><tr><td>Hard Coal + Imported Coal</td><td>23.93</td><td>24.075</td><td>24.074</td></tr><tr><td>Fuel Oil</td><td>41.32</td><td>44.216</td><td>42.418</td></tr><tr><td>Diesel Oil</td><td>43.44</td><td>43.784</td><td>44.203</td></tr><tr><td>Lpg</td><td>0</td><td>0.000</td><td>0.000</td></tr><tr><td>Naphta</td><td>0</td><td>0.000</td><td>0.000</td></tr></table>				NCVi(TJ/kt)			2014	2015	2016	Natural Gas	37.49	37.837	38.011	Lignite	7.11	7.161	7.196	Hard Coal + Imported Coal	23.93	24.075	24.074	Fuel Oil	41.32	44.216	42.418	Diesel Oil	43.44	43.784	44.203	Lpg	0	0.000	0.000	Naphta	0	0.000	0.000
	NCVi(TJ/kt)																																						
	2014	2015	2016																																				
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Lpg	0	0.000	0.000																																				
Naphta	0	0.000	0.000																																				
Choice of data or Measurement methods and procedures	TEIAS, Turkish Electricity Transmission Company is the official source for the related data, hence providing the most up-to-date and accurate information available.																																						
Purpose of data	Calculation of baseline emissions-to demonstrate contribution to SDG13- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning																																						
Additional comment	-																																						

Relevant SDG Indicator	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
Data/parameter	EFCO _{2,i,y}
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor of fossil fuel type i used in power unit m in year y

Source of data	IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter 1 of Volume 2 (Energy) of the 2006 IPCC Guidelines for National Greenhouse Gas Inventory																
Value(s) applied		<table><tr><td>Natural Gas</td><td>54.3</td></tr><tr><td>Lignite</td><td>90.9</td></tr><tr><td>Hard Coal + Imported Coal</td><td>89.5</td></tr><tr><td>Fuel Oil</td><td>75.5</td></tr><tr><td>Diesel Oil</td><td>72.6</td></tr><tr><td>Lpg</td><td>61.6</td></tr><tr><td>Naphta</td><td>69.3</td></tr></table>	Natural Gas	54.3	Lignite	90.9	Hard Coal + Imported Coal	89.5	Fuel Oil	75.5	Diesel Oil	72.6	Lpg	61.6	Naphta	69.3	
Natural Gas	54.3																
Lignite	90.9																
Hard Coal + Imported Coal	89.5																
Fuel Oil	75.5																
Diesel Oil	72.6																
Lpg	61.6																
Naphta	69.3																
Choice of data or Measurement methods and procedures	Please see calculations of emission factor (Section B.6.1)																
Purpose of data	Calculation of baseline emissions - to demonstrate contribution to SDG13- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning																
Additional comment	There is no information on the fuel specific default emission factor in Turkey, hence, IPCC values has been used as referred in the "Tool to calculate the emission factor for an electricity system"																

Relevant Indicator	SDG	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							
Data/parameter	$\eta_{m,y}$								
Unit	%								
Description	Average net energy conversion efficiency of power unit m in year y								
Source of data	”Appendix 1, Default efficiency factors for power plants” of ”Tool to calculate the emission factor for an electricity system” version 06.0.0.								
Value(s) applied	<table><tr><td>Natural Gas</td><td>0.0543</td></tr><tr><td>Import Coal</td><td>0.0895</td></tr><tr><td>Lignite</td><td>0.0909</td></tr></table>			Natural Gas	0.0543	Import Coal	0.0895	Lignite	0.0909
Natural Gas	0.0543								
Import Coal	0.0895								
Lignite	0.0909								

Choice of data or Measurement methods and procedures	The average values of thermal plants in Turkey are taken from "Tool to calculate the emission factor for an electricity system" 06.0.0.
Purpose of data	Calculation of baseline emissions - to demonstrate contribution to SDG13- 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Additional comment	-

D.2. Data and parameters monitored

Relevant SDG Indicator	7.2.1 "Renewable energy share in the total final energy consumption"
Data / Parameter	$EG_{\text{facility}, y}$
Unit	MWh/yr
Description	Quantity of net electricity supplied to the grid in year y
Source of data	EPIAS records (Meter reading records or OSF forms of main meters are cross-checked)
Value(s) applied	Net electricity generation between 01/10/2022-31/12/2022: 92,496.376 MWh Net electricity generation between 01/01/2023-31/12/2023: 316,424.663 MWh Net electricity generation between 01/01/2024-31/03/2024: 77,955.168 MWh Net electricity generation between 01/10/2022-31/03/2024 486,876.207 MWh

Monitoring frequency	Continuous measurement and at least monthly recording. Information of the meters are listed as followed: The accuracy of meters is given as 0.2s class. TR-1 Transformer <table><tr><td></td><td>Electricity Meter (Primary)</td><td>Electricity Meter (Spare Meter)</td></tr><tr><td>Manufacturer</td><td>EMH</td><td>EMH</td></tr><tr><td>Model</td><td>LZQJ-XC</td><td>LZQJ-XC</td></tr><tr><td>Serial number</td><td>9798640</td><td>9798641</td></tr><tr><td>Date of initial calibration</td><td>22/06/2020</td><td>22/06/2020</td></tr><tr><td>Date of installation</td><td>17/09/2020</td><td>17/09/2020</td></tr><tr><td>Date of TEIAS Test</td><td>12/08/2022</td><td>12/08/2022</td></tr></table> TR-2 Transformer <table><tr><td></td><td>Electricity Meter (Primary)</td><td>Electricity Meter (Spare Meter)</td></tr><tr><td>Manufacturer</td><td>EMH</td><td>EMH</td></tr><tr><td>Model</td><td>LZQJ-XC</td><td>LZQJ-XC</td></tr><tr><td>Serial number</td><td>9798642</td><td>9798643</td></tr><tr><td>Date of initial calibration</td><td>22/06/2020</td><td>22/06/2020</td></tr><tr><td>Date of installation</td><td>17/09/2020</td><td>17/09/2020</td></tr><tr><td>Date of TEIAS Test</td><td>12/08/2022</td><td>12/08/2022</td></tr></table>		Electricity Meter (Primary)	Electricity Meter (Spare Meter)	Manufacturer	EMH	EMH	Model	LZQJ-XC	LZQJ-XC	Serial number	9798640	9798641	Date of initial calibration	22/06/2020	22/06/2020	Date of installation	17/09/2020	17/09/2020	Date of TEIAS Test	12/08/2022	12/08/2022		Electricity Meter (Primary)	Electricity Meter (Spare Meter)	Manufacturer	EMH	EMH	Model	LZQJ-XC	LZQJ-XC	Serial number	9798642	9798643	Date of initial calibration	22/06/2020	22/06/2020	Date of installation	17/09/2020	17/09/2020	Date of TEIAS Test	12/08/2022	12/08/2022
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Date of TEIAS Test	12/08/2022	12/08/2022																																									
QA/QC procedures	• Measurements are undertaken using energy meters. • Concerning metering system accuracy, project participants have 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. Maintenance and calibration of TEİAŞ meters are carried out according to the System Usage Agreement. The periodical calibration or maintenance is under the responsibility of TEİAŞ and has been fixed as once in 10 years. Since TEİAŞ meters are sealed by TEİAŞ, the project proponent cannot intervene with the devices. • The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import. EPIAS record is crosschecked with the data measured protocol by meters (OSOS-OSF forms) • The meters are tested on 12/08/2022 and it valid two years.																																										
Purpose of data	Calculation of baseline emissions- demonstrate contribution to SDG7'-7.2 By 2030, increase substantially the share of renewable energy in the global energy mix"																																										

Additional comment	-
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Relevant SDG Indicator	8.5.2 Unemployment rate, by sex, age and persons with disabilities"
Data / Parameter	Number of employments
Unit	Number
Description	Number of people employed directly due to the project activity
Source of data	SGK Records
Value(s) applied	20 employees
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 are provided during each monitoring period. After first verification, only changes in employees will be reported.
Purpose of data	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'
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 have trained on health and safety issues during per monitoring period.
Source of data	Training Records or Certificates
Value(s) applied	20 employees have one trained on health and safety issues in one or two year according to regulations.
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 Record and Certificates have been provided to the VVB

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

Relevant SDG Indicator	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	ERy
Unit	tCO ₂ /y
Description	Emission Reductions in year y (t CO ₂ /yr) As per ACM0002 V 18.0, 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 (0.5605 tCO ₂ /MWh) and net electricity generated)
Value(s) applied	2022: 51,844 tCO ₂ 2023: 177,356 tCO ₂ 2024: 43,693 Total: 272,893 tCO ₂
Measurement methods and procedures	Please see B.6.2-B.6.4 and B.7.3 for more detailed description of the monitoring plan.
Monitoring frequency	Once for each monitoring period
QA/QC procedures	Please see B.7.3. for more detailed description of the monitoring plan.
Purpose of data	Calculation of baseline emissions (Baseline emissions calculated as explained in section B.6.2-B.6.4) to demonstrate contribution to SDG13-13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
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 contribution to SDG 7 is defined as the produced electricity energy produced by the Wind Power Plant. As there is no electricity energy produced in the baseline, the baseline value is 0.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. 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:

Baseline emissions are calculated using following equation:

$$BE_y = EG_y * EF_y$$

Where,

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

EG_y = The net electricity exported to the grid system during the year y (486,876.207 MWh)

EF_y = The emission factor of the grid to which the project exports electricity (0.5605 tCO₂/MWh)

Hence,

$$BE_y = 486,876.207 \text{ MWh /y} * 0.5605 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 272,893 \text{ tCO}_2$$

E.2. Calculation of project value or estimation of project situation of each SDG Impact

SDG 7 (Affordable and Clean Energy)

EG_y = the net electricity exported to the grid system during the year y

The amount of electricity produced does not need any calculation, it is directly received from meter readings.

$$C \text{ (Net Electricity supplied to the grid [MWh] } EG_y) = A \text{ (Electricity supplied to the grid [MWh])} - B \text{ (Electricity consumption from the grid [MWh])}$$

The Sah Wind Power Plant net electricity supplied to the grid 486,876.207 MWh during this monitoring period.

SDG 8 (Decent Work and Economic Growth)

"Number of employment generation" and does not need any calculation, it is directly received from SGK records. "Health and Safety Training Records" does not need any calculation, it is directly taken from training records. 20 people employed and all employed has taken one Health and Safety Training in one or two year according to regulations.

SDG 13 (Climate Action)

The total emission reductions can be calculated with the results of the below described equations. The emission reduction is equal to the baseline emissions minus project emissions and leakage emissions. Leakage emissions in this project are considered to be zero. There are no project emissions in this kind of project. (Since PE_y and LE_y are assumed to be 0, emission reductions are equal to baseline emissions) The general equation is as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year y (tCO₂e/yr)

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

PE_y = Project emissions in year y (tCO₂e/yr)

LE_y = Leakage emissions in year y (t CO₂/y

Project Emissions

As the proposed project activity is a new grid-connected solar power plant. For this reason, PE_y is considered as "0" in line with ACM0002 Version 18.1.

PE_y=0

Leakage

Leakage emission (LE_y) is considered as "0" as suggested in ACM0002 Version 18.1

Baseline Emissions

The baseline emissions are calculated as follows:

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

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

EG_{BLy} = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)

EF_{CO₂grid y} = CO₂ emission factor of the grid in year y (tCO₂/MWh)

The Sah Wind Power Plant does not produce any emission during this monitoring period.

E.3. Calculation of leakage

Leakage emission (LE_y) is considered as "0" as suggested in ACM0002 Version 18.1

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

SDG 7 (Affordable and Clean Energy)

Net Benefit= Project value- Baseline value

$$486,876.207 \text{ MWh} = 486,876.207 \text{ MWh} - 0$$

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 (01/10/2022- 31/12/2022)	92,592.617	96.241	92,496.376
2023 (01/01/2023- 31/12/2023)	316,994.458	569.795	316,424.663
2024 (01/01/2024- 31/03/2024)	78,140.675	185.507	77,955.168
TOTAL (01/10/2022 - 31/03/2024)	487,727.750	851.543	486,876.207

SDG 8 (Decent Work and Economic Growth)

20 people have employed, and all employment has attended to the trainings in this monitoring period.

SDG 13 (Climate Action)

$$BE_y = EGBL_y * EFCO2_{grid,y}$$

Baseline emissions in year y (tCO₂/yr) = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh) * CO₂ emission factor of the grid in year y (t CO₂/MWh)

Vintage	EG Net electricity supplied to the grid [MWh]	EF [tCO₂/MWh]	Baseline emission: BE = EG * EF [t CO₂-eq]
2022 (01/10/2022- 31/12/2022)	92,496.376	0.5605	51,844
2023 (01/01/2023- 31/12/2023)	316,424.663	0.5605	177,356

2024 (01/01/2024- 31/03/2024)	77,955.168	0.5605	43,693
TOTAL (01/10/2022 - 31/03/2024)	486,876.207	0.5605	272,893

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
7	Affordable and Clean Energy	0	486,876.207MWh	486,876.207MWh
8	Decent Work and Economic Growth	0	20 people employed	20 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	272,893 tCO ₂	0	272,893 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	460,268.953 MWh	486,876.207 MWh
8	Between 20 and 25 people employed	20 people employed
8	All employed will be trained during the monitoring period	All employed has taken Health and Safety Training
13	257,977 tCO ₂ /MWh	272,893 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 460,268.953 MWh and emission reduction are 257,977 tCO₂ according to registered PDD for 2nd crediting period. And PP has monitored 548 days (between 01/10/2022 and 31/03/2024) so PP has calculated 272,893 tCO₂ emission reduction and 486,876.207 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 one years and six-month operation.

The comparison shows that the actual emission reduction is 272,893 tCO₂ a higher (approximately 5.78%) than the expectation 257,977 tCO₂ in the registered PDD. And the comparison shows that the actual net electricity generation is 486,876.207 MWh a higher (approximately 5.78%) than the expectation generation 460,268.953MWh in the registered PDD of 2nd crediting period. They are close to expectation values because of the wind speed conditions.

SECTION F. SAFEGUARDS REPORTING

There is no changes or improvements to proposed mitigation measures.

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	All the employees will be trained about health and safety issues during operation phase of the project. 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	Health and Safety Training Records/ Once for period each monitoring. It has assessed under SDG8

	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	Not Required	Not Required
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	Not Required	Not Required

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.

This is the second monitoring period of the second crediting period and there is no input received via the Continuous Input and Grievance Mechanism during the approximately twelve years and a half. The Continuous Input and Grievance Mechanism has been located at the headman of Sahmelek and Dedeonba villages and all stakeholders can reach this grievance mechanism notebooks very easily and write their comment or request. 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 15/11/2018 by GS. And there is no changes during this 5th monitoring period.

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

No any 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