

TEMPLATE

KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

PUBLICATION DATE **14.10.2020**

VERSION v. **1.2**

RELATED SUPPORT

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

This document contains the following Sections

Key Project Information

A – Description of project

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

C – Duration and crediting period

D – Summary of Safeguarding Principles and Gender Sensitive Assessment

E – Outcome of Stakeholder Consultations

Appendix 1 – Safeguarding Principles Assessment (mandatory)

Appendix 2 - Contact information of Project participants (mandatory)

Appendix 3 - LUF Additional Information (project specific)

Appendix 4 - Summary of Approved Design Changes (project specific)

KEY PROJECT INFORMATION

GS ID of Project	GS1235
Title of Project	ÇANTA WPP
Time of First Submission Date	07/01/2014
Date of Design Certification	23/03/2014
Version number of the PDD	V2.6SOP
Completion date of version	20/05/2023
Project Developer	GTE KARBON SÜRDÜRÜLEBİLİR ENERJİ EĞİTİM DANIŞMANLIK VE TİC. AŞ (Project Developer)
Project Representative	RHG Enertürk Enerji Üretim ve Ticaret A. Ş.
Project Participants and any communities involved	GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Ticaret A.Ş. (Project developer) RHG Enertürk Enerji Üretim ve Ticaret A. Ş. (Project owner)
Host Country (ies)	Turkey
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Scale of the project activity	☐ Micro scale ☐ Small Scale ☒ Large Scale
Other Requirements applied	N/A
Methodology (ies) applied and version number	ACM0002 "Grid-connected electricity generation from renewable sources ", version 21.0
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☒ Renewable Energy Label ☐ N/A

Project Cycle:	☐ Regular ☒ Retroactive
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Table 1 – Estimated Sustainable Development Contributions

Sustainable Development Goals Targeted	SDG Impact (defined in B.6.)	Estimated Annual Average	Units or Products
13 Climate Action (mandatory)	13.2.2 Total greenhouse gas emissions per year	105,782 tonnes of CO2e per annum	tCO2 (GS VERs)
7 Affordable and Clean Energy	7.2.1 Renewable energy share in the total final energy consumption	163,200 MWh/yr	MWh/yr
8 Decent Work and Economic Growth	8.5.1 Average hourly earnings of female and male employees, by occupation, age, and persons with disabilities	18 people are employed	People employed

SECTION A. DESCRIPTION OF PROJECT

A.1 Purpose and general description of project

>> The proposed project is a large-scale wind power plant project located within the boundaries of Silivri District of Istanbul province. Purpose of the proposed project is to generate electricity by utilizing the renewable energy potential to meet increasing electricity demand and thus reduce fossil fuel consumption.

The initial phase of the proposed project involves installation of 19 turbines each having 2.5 MW capacity (Total capacity is 47.5 MW_m and 45MW_e). Total output capacity was 159.75 GWh according to the EPDK license (18/08/2011)¹. Although, in the Generation License the total output has been stated as 159.75 GWh, the final expected output has been improved in micrositing and optimization studies² where 2.5MW Nordex N100/2500kW R100 turbines have been selected for the project which results in 163.2 GWh annual generation.

A capacity addition was designed later with the approved amendment in EPDK license (27/08/2015) that includes 24 turbines with 2.5 MW_m / 2.5 MW_e installed capacity (with the total installed capacity of 60 MW_m / 50 MW_e) that increases total electricity output to 175 GWh. Later, with another approved amendment in EPDK license (05/04/2018), the total capacity was designed as 19x 2.5 MW_m / 2.5 MW_e and 2x 3.6 MW_m / 1.25 MW_e which results in total of 54.7 MW_m / 50 MW_e installed capacity and 175 GWh annual generation.

However, as it could be understood from the GS team response on deviation request document, application of the inclusion of capacity addition was not approved. Therefore, 19 turbine was accepted that has the annual generation of 163.2 GWh, while the

¹ EPDK License

² Micrositing Feasibility Dated: 13/06/2012

installed capacity was accepted as 47.5 MW_m /45 MW_e as per EPDK license (amendment date: 05/04/2018).

The baseline scenario that was identified as “the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources”. In accordance with that, the project has a capacity of 47.5 MW_m and 45 MW_e and an expected production of 163.2 GWh and annual emission reduction will be 105,782 tCO₂. Calculation approach for the difference in electricity generation to be caused by the increase in capacity and subtract it from the total production is explained separately in the monitoring plan section. “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period version 03.0.1”³

Dissimilarly from the first crediting period, for Combined Margin, the value from the ministry of energy and natural resources “TURKEY NATIONAL ELECTRICITY NETWORK EMISSION FACTOR INFORMATION FORM⁴” is used.

Total land used for the project is estimated as 1,900 m² for turbines, 350m² for office and facility buildings and about 150m² for switchyard area⁵. Electricity generated at project is fed to the national grid via Silivri substation. Length of transmission line is around 11.5 km⁶.

Average lifetime of turbines is assumed as 25 years as per the tool applied⁷.

Main goals of the Proposed Projects include;

- Utilization of the renewable energy potential of Turkey to meet rapidly increasing electricity demand and contribute achieving energy security.
- Increase share of WPPs in electricity generation mix of Turkey and reduction of GHG emissions.

³ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf>

⁴ Turkey National Electricity Network Emission Factor Information Form

⁵ CANTA WPP PRE-EIA Report page 15

⁶ Grid Connection Agreement

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

- Contribute to the national economic development by creating direct and indirect job opportunities during construction and operation phases.
- Reduce import dependency of fossil fuel dominated electricity sector and diversify generation mix through use of local resources.
- Contribution to sustainable development through supporting local community and local economy.

SDG 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix: Projects utilizes wind power as a renewable energy source.

SDG 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value: The project creates direct and indirect employment opportunities during operation phases.

SDG 13.2. Integrate climate change measures into national policies, strategies and planning.

As per the national regulations, a project introductory file (PIF) has been prepared for the project to assess the environmental impacts. In addition to national requirements, an Environmental and Social Action Plan (ESAP), Non-Technical Summary of the Project, Gap Analysis Report and Stakeholder Engagement Plan have been prepared for the project for compliance with international standards.

According to the research conducted by State Planning Organization (SPO) on socio-economic level of Districts in Turkey, Silivri District is ranked as 60th among 872 Districts in Turkey in terms of development level and classified in second (out of six) group. About 46.6% of the population works on agriculture and 37.5% works on service sector whereas 15.9% works on industry⁸. Despite the high percentage of population working in industry, unemployment is still high due to high population increase (33.19%) in Silivri mainly due to migration from rural areas.

In addition to contribution to local economy, project also contributes use of local and renewable resources to meet the increasing energy demand of Turkey and reduce dependency on fossil fuels. According to Turkish Electricity Transmission Company (TEIAS) statistic, in 2011 about 74.8%⁹ of the electricity has been generated via thermal power plants whereas 45.4% was from natural gas (NG) power plants which is fully imported and 21.6 bn m³ NG has been consumed¹⁰. In terms of fuel dependency, proposed project is expected to replace about NG and other fossil fuel import and consumption and thus contribute to balance of payments and increase air quality.

TABLE 2. MILESTONES FOR CANTA WPP

Milestones	Date
Preliminary EIA	January 2009
EIA Decision	13/02/2009
License Issuance	18/08/2011
Board Decision	01/11/2011
Carbon Certification Agreement	01/01/2012
EM Equipment Purchase Contract*	26/03/2012
LSC Meeting	16/04/2012
License Revision	18/04/2012
Bankable Report	13/06/2012
Forest Permission	25/06/2012
Grid Connection Agreement	03/10/2012
Loan Proposal	21/10/2012
Subcontractor Agreement for Substation Construction (Bilmer)	22/02/2013
Construction Start Date ¹¹	01/03/2013
Agreement on construction of transmission line, wind park, assembly, and test operation (ABB)	13/09/2013

¹¹ ..\Desktop\7. ÇANTA WPP\16. Construction Agreement\ABB Elektrik Sözleşme 13.09.2012.pdf

GS Registration Date	24/03/2014
Commissioning Date 1 st (T5, T10, T11, T12, T13, T14)	31/05/2014
Commissioning Date 2 nd (T1, T2, T4, T6, T16 T17, T18, T19)	28/06/2014
1 st Crediting Period	02/02/2015 - 01/02/2022
1 st Monitoring Period	02/02/2015- 31/10/2016***
Capacity Extension License Amendment in License of 24 turbines	27/08/2015
Capacity Extension License Amendment in License of 21 turbines) **	05/04/2018
Agreement on construction of transmission line, wind park, assembly, and test operation (ABB)	13/09/2013
Commissioning Date 5 th T21	26/11/2021
2 nd Crediting Period	02/02/2022 - 01/02/2029
Capacity Extension License Amendment in License of 24 turbines	27/08/2015

*Date of investment decision

**Applied for design change and rejected by GS.

***1. After the coup attempt in 2016, the management of the company has changed, and government has impounded the assets of the company. Due to state of emergency and new governance structure commanded by the Savings Deposit Insurance Fund of Türkiye (TMSF), decision making process has been delayed except urgent cases. Therefore, project owner could not apply for renewal of the crediting period.

As it can be seen from the Table above, the Board took a decision on 01/11/2011 to integrate into carbon revenues into the project financial feasibility. In line with the CDM-EB-41¹², investment decision date has been selected as the equipment purchase

¹² <http://cdm.unfccc.int/EB/041/eb41rep.pdf>

contract as it is dated as the earliest contract indicating a concrete proof of the project owner's realisation of the project.

The load factor of the project is calculated as 39%¹³ (before the capacity addition) based on the Bankable Report of the project for the initial phase of the project. The project area consists of private land and Treasury land used as meadow and agricultural land, and besides unused land.

A.1.1. Eligibility of the project under Gold Standard

>> a) Type of the project activity: The proposed projects fit into 'Renewable Energy Supply' category as defined generation and delivery of energy services from non-fossil and non-depletable sources as wind being one. It has a physical implementation on ground.

b)Location: Project is in Turkey.

c)Project Area, Project Boundary and Scale: The project boundary is considered as the National Electricity Grid of Turkey according to applied tool. The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the power plant is connected to. The project is a 45 MW_e wind farm project and exceeding the 15 MW limit for small scale project according to UNFCCC regulations, the project is categorized under large scale. The project doesn't claim Green or White certificates or equivalents that may result in double counting because of carbon dioxide emission reduction purposes.

d)Host Country Requirements: As Turkey, the host country, has no cap on GHG emissions, the GS VERs don't need to be backed up by allowances or other denominated units resulting in local authorities stating that an equivalent number of allowances will be retired to back up the GS VERs issued. The project will be registered and seek

¹³ Calculation provided in the Financial Analysis Excel.

approval from the national registry on GHG emission reduction projects as regulated by Communiqué on Procedures for Registration of Greenhouse Gas Emission Reduction Projects. It also complies with national regulations.

The host country does not either have an emission reduction cap enforced or have the possibility to trade emissions that include the scope of the proposed project. In case any such risk of double counting exists, PR shall commit to retiring eligible units equal to the quantity of Gold Standard VERs.

e)Contact Details: They are given in Appendix 2.

f)Legal Ownership: All legal rights are given to BOYDAK Enerji Üretim ve Ticaret A.Ş.for 49 years from the date 18/08/2011. The legal entity was changed to RHG Enertürk Enerji Üretim ve Ticaret A. Ş. with an amendment to the EPDK license approved on 03/09/2021.

g)Other Rights: Any known disputes or contested rights will be declared to Gold Standard and be resolved prior further project implementation in affected areas.

h)Official Development Assistance: As Turkey being a part of the DAC list of ODA Recipients of OECD, a written declaration of non-ODA for the project activity will be submitted.

According to the Principles and Requirements Guideline, the project shall define both baseline and project scenarios. These scenarios can be found in Section B. It also shall contribute at least 3 SDGs, one of which must be SDG 13. The project contributes SDG 7, 8 and 13 as explained in Section B.6.

Renewable Energy Activity Requirements:

- 4.1 Principle-1: Contribution to Climate Security & Sustainable Development: Project contributes 3 SDSs including SDG 13. Please see Section B 6.1.
- 4.2 Principle-2: Safeguarding Principles: Please see Section D.
- 4.3 Principle-3: Stakeholder Inclusivity: Please see Section E.
- 4.4 Principle-4: Demonstration of Real Outcomes: Please see Section B 6.4.

- 4.5 Principle-5: Financial Additionality & Ongoing Financial Needs: Please see Section B.5.

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

>>

Name of Party involved (*) ((Host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant
Turkey (Host)	• RHG Enertürk Enerji Üretim ve Ticaret A. Ş.	No

A.2 Location of project

>>>>Project is located within boundaries of Silivri District of İstanbul Province of Turkey. Nearest settlement to the project boundaries is Canta village which is about 650 m from the project nearest turbine

TABLE 3. COORDINATED OF THE TURBINES (* FOR NEW TURBINES)

Zone(35S)	Y	X	Zone(35S)	Y	X
T1	588962.66	4551829.82	T11	587786.26	4554771.83
T2	589777.07	4552521.47	T12	588329.00	4553037.87
T3	588300.79	4555674.25	T13	588008.00	4554405.00
T4	589467.97	4552896.92	T14	587605.00	4555205.00
T5	589203.81	4553173.74	T15	588444.80	4555276.18
T6	588751.61	4553173.50	T16	588649.29	4551930.17
T7	589008.37	4553837.01	T17	588308.91	4551986.34
T8	589221.71	4554592.04	T18	589425.02	4551827.16
T9	588982.15	4554889.46	T19	589885.99	4551989.56
T10	588578.19	4553777.76	Switchyard	589572.25	4553327.41
T20*	589375.00	4552292.00	T21*	587774.00	4553622.00

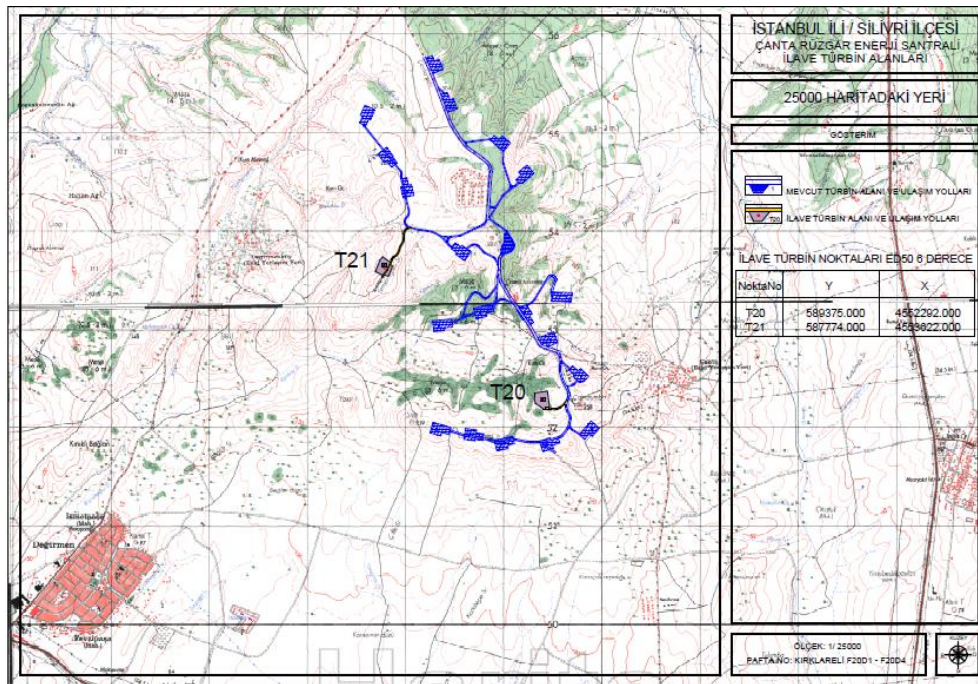
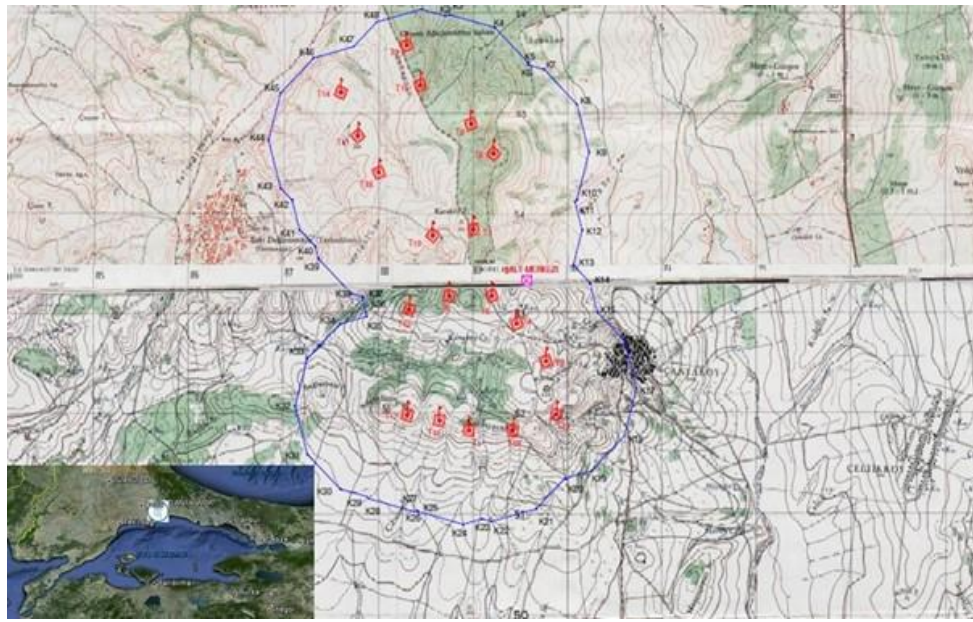


Figure 1. Lay out of Turbines

A.3 Technologies and/or measures

>>>> Type I: Renewable Energy Projects

Category I D: Grid connected renewable electricity generation

Sectoral scope 1: Energy industries (renewable - / non-renewable sources) ¹⁴

Project activity involves wind turbines that converts the wind energy into electrical energy. The application of the inclusion of capacity addition was not approved by GS. Therefore, for baseline scenario 19 WEC's of Nordex N100/2500kW R100 MW turbine was accepted that has the annual generation of 163.2 GWh, while the installed capacity was accepted as 47.5 MW_m /45 MW_e as per EPDK license (amendment date: 05/04/2018). This energy is being converted at the site switchyard and fed to the national grid.

Technical characteristics of turbines used in ÇANTA WPP have been summarized in table below.

N100/2500 kW		N100/2500 kW	
Rotor		Yaw system	
Number of blades	3	Yaw bearing	Ball bearing
Rotor speed	9.6 – 14.9 rpm	Brake	Hydraulic, disc brake
Rotor diameter	99.8 m	Yaw drive	Asynchronous motors with integrated brakes
Swept area	7,823 m ²	Speed	Approx. 0.4 deg/s
Power regulation	Pitch	Control system	
Cut-in wind speed	3 m/s	Type	SPS, Remote Field Controller (RFC)
Cut-out wind speed	20 m/s	Grid connection	Via IGBT converter
Rated output at	12.5 m/s	Scope of monitoring	Remote monitoring of over 300 different parameters, e.g. temperature, hydraulic pressure, pitch parameters, wind speed and direction
Survival wind speed	52.5 m/s	Recording	Production data, event lists with filter function, long and short-term trends
Pitch regulation	Individual blade pitch	Visualisation	Panel PC in control cabinet and Web-based access possible from any PC, adapter for laptop at the bottom of tower or in nacelle
Weight	Approx. 56,500 kg	Brakes	
Blades		Design	Three independent brake systems (single pitch)
Blade length	48.7 m	Aerodynamic	Individual pitching of blades
Material	GRP	Mechanical	Disc brake
Weight	Approx. 9,800 kg	Tower	
Gearbox		Type	Modular, steel tube tower
Type	Planetary/spur gear or differential gear box	Hub height	100 m, certificate DiBt 2, IEC 3a
Gear ratio	1:77.4 (50 Hz)/ 1:92.9 (60 Hz)	Generator	
Generator		Power	2,500 kW
Power	2,500 kW	Voltage	660 V
Voltage	660 V	Type	Double-fed asynchronous generator with partial frequency converter
Type	Double-fed asynchronous generator with partial frequency converter	Frequency	50 or 60 Hz
Frequency	50 or 60 Hz		

A.4 Scale of the project

>>>> The application of the inclusion of capacity addition was not approved by GS. Therefore, for baseline scenario 19 WEC's of Nordex N100/2500kW R100 MW turbine

14 ..\Desktop\7. ÇANTA WPP\References\scopelst.pdf

was accepted that has the annual generation of 163.2 GWh, while the installed capacity was accepted as 47.5 MW_m /45 MW_e as per EPDK license (amendment date: 05/04/2018). Hence, it is a large-scale project having 45 MW_e installed capacity providing 105,782 tonnes CO2 reduction.

A.5 Funding sources of project

>>>> No public funding is used for the project

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

B.1. Reference of approved methodology (ies)

The United Nations approved consolidated baseline methodology applicable to this project is ACM0002 "Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources" Version -21.0¹⁵.

ACM0002 refers to the following tools:

- "Tool for the demonstration and assessment of additionality", Version 7¹⁶ and,
- "Tool to calculate the emission factor for an electricity system", Version 7¹⁷.

B.2. Applicability of methodology (ies)

The choice of methodology ACM0002, is justified as the project activity meets its applicability criteria. CANTA WPP is a large-scale wind power type, greenfield, grid connected renewable electricity generation project.

No.	Applicability Conditions	The Project
1	This methodology is applicable to grid-connected renewable energy power generation project activities that:	CANTA WPP is a large-scale wind power type,

¹⁵ <https://cdm.unfccc.int/UserManagement/FileStorage/ZPFJL01OU2RYC6N3HASIXV7K84QBG9>

¹⁶ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

¹⁷ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

	(a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s).	greenfield, grid connected renewable electricity generation project. So, the project meets (a) Install a Greenfield power plant.
2	The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit.	The project activity is installation of a new grid connected renewable energy power plant of the type of wind power plant.
3	In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	The project does not involve a capacity addition to an existing plant, a retrofit of an existing operating plant, a rehabilitation of an existing plant, a replacement of an existing plant. Hence, this condition is N/A.
4	In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m²; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m², all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²;	The project is not a hydro power plant. Hence, this condition is N/A.

	(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
5	In the case of integrated hydro power projects, project proponent shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity.	The project is not a integrated hydro power project. Hence, this condition is N/A.
6	The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	-The project does not involve switching from fossil fuel use to renewable energy at the site of the project activity. -The project is not a biomass fired power plant.
7	In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	The project does not involve retrofits, rehabilitations, replacements, or capacity additions. Hence, this condition is N/A.

8	In addition, the applicability conditions included in the tools referred to below apply. ¹⁸	Given below.
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Applicability as per “Tool 07: Tool to calculate the emission factor for an electricity system, version 07.0”¹⁹

No.	Applicability Conditions	The Project
1	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	The project activity supplies electricity to a grid. Hence, this condition is met.
2	Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 1: Procedures related to off-grid power generation” should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	CO ₂ emission factor for the displacement of electricity generated by power plants in an electricity system is determined by calculating the “combined margin” emission factor (CM) of the electricity system.
3	In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project electricity system is not located partially or totally in an Annex I country. Hence, this condition is N/A.

¹⁸ The condition in “TOOL02: Combined tool to identify the baseline scenario and demonstrate additionality” that all potential alternative scenarios to the proposed project activity must be available options to project participants; does not apply to this methodology, as this methodology only refers to some steps of this tool.

¹⁹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

4	Under this tool, the value applied to the CO ₂ emission factor of biofuels is zero.	The project does not involve biofuels in any way.
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Applicability as per "Tool 01: Tool for the demonstration and assessment of additionality, version 07.0.0"²⁰

No.	Applicability Conditions	The Project
1	The use of the "Tool for the demonstration and assessment of additionality" is not mandatory for project participants when proposing new methodologies. Project participants may propose alternative methods to demonstrate additionality for consideration by the Executive Board. They may also submit revisions to approved methodologies using the additionality tool.	Tool for the demonstration and assessment of additionality is applied in this project since there is no new methodologies proposed. Hence, this condition is N/A.
2	Once the additionally tool is included in an approved methodology, its application by project participants using this methodology is mandatory.	The additionality tool is applied using this methodology.

Since there exists no delineation of project electricity system or connected electricity systems by DNA, following criteria has been used to determine the existence of significant transmission constraints:

- In case of electricity systems with spot markets for electricity: there are differences in electricity prices (without transmission and distribution costs) of more than 5 percent between the systems during 60 percent or more of the hours of the year.
- The transmission line is operated at 90% or more of its rated capacity during 90% percent or more of the hours of the year.

Since the project output is fed to the Turkish electricity grid which does not involve any distinct electricity systems that applies different price, first criteria defined above is not applicable. Also, since the transmission line between the proposed

²⁰ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

projects and nearest substation is built within the scope of the project and there exist no information on grid capacity utilization, second criteria is also inapplicable. Based on assessment above, it is difficult to conclude with a significant transmission constraint or grid boundary. Since there is no dispatch grid system in Turkey, the project boundary is considered as the National Electricity Grid of Turkey according to applied tool. The geographical and physical boundaries of the Turkish grid and location of the power plants are well identified as given diagram below.

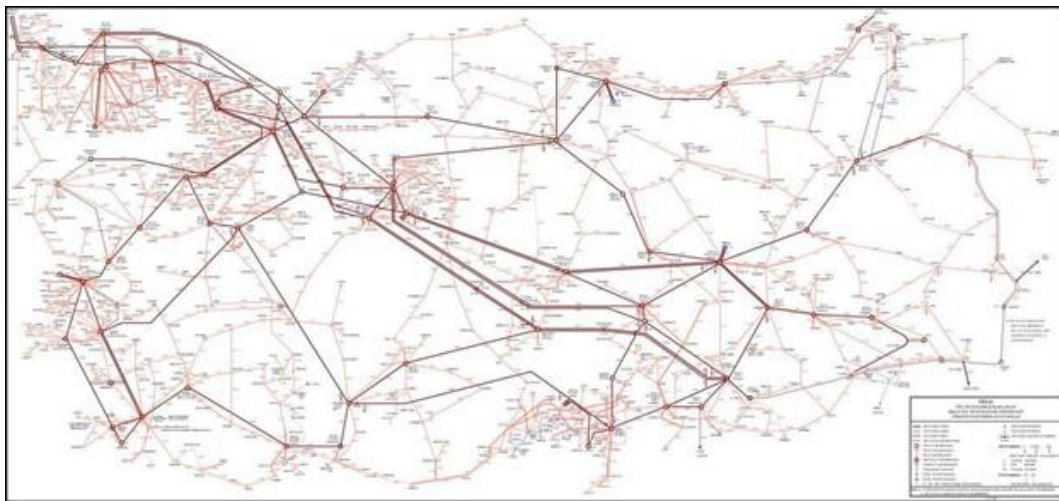
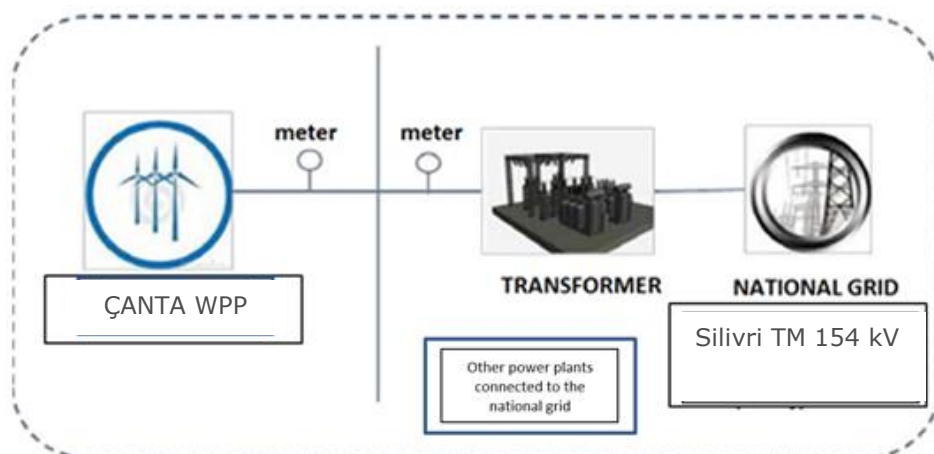


Figure 2. Turkish Electricity Grid

B.3. Project boundary

The project boundary is considered as the National Electricity Grid of Turkey according to applied tool. The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the power plant is connected to.

The flow diagram of the project boundary is illustrated below:



The project does not involve any other emissions sources not foreseen by the methodologies. The greenhouse gases and emission sources included in or excluded from the project boundary are shown in table below.

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Electricity	CO ₂	Yes	Major emission source
	Generation by the grid	CH ₄	No	Minor emission source. Excluded for simplification
	connected power plants	N ₂ O	No	Minor emission source. Excluded for simplification
	Emissions of CH ₄ from the reservoir. CO ₂	CO ₂	No	Minor emission source. Excluded for simplification as per the applied methodology
	emissions from combustion of fossil fuels for electricity	CH ₄	No	Minor emission source. Excluded for simplification as per the applied methodology
	generation	N ₂ O	No	Minor emission source. Excluded for simplification

B.4. Establishment and description of baseline scenario

>>

According to the methodology, baseline scenario was identified as “the electricity delivered to the grid by the project activity that otherwise would have been generated

by the operation of grid-connected power plants and by the addition of new generation sources”.

According to the Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, Version 3.0.1, there are some requirements:

No.	Applicability Conditions	The Project
Step 1.1	If the current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period, go to Step 1.2. If the current baseline does not comply with relevant mandatory national and/or sectoral policies, then assess based on the examination of current practice in the country or region in which the policies apply, whether those policies are systematically not enforced and that non-compliance with those requirements is widespread in the country or region.	there is no change in national/sectoral policies affecting project implementation. Hence the Step 1.2. can be evaluated.
Step 1.2.	Assess the impact of circumstances existing at the time of requesting renewal of the crediting period on the current baseline emissions, without reassessing the baseline scenario. In the situation where the baseline scenario identified at the validation of the project activity was the continuation of the current practice without any	The combined margin is updated as per OM & BM calculations by Ministry of Energy and Resources ²¹

²¹

<https://enerji.gov.tr/Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klim/%C4%B0klimDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Bform2020.pdf>

	investment, an assessment of the changes in market characteristics is required for the renewal of the crediting period. Evaluate whether the conditions used to determine the baseline emissions in the previous crediting period are still valid. Assess the availability of new fuels or raw materials and the impact of electricity or fuel prices in the identification of the current practice for the baseline emissions.	
Step 1.3	This sub-step should only be applied if the baseline scenario identified at the validation of the project activity was the continuation of use of the current equipment(s) without any investment and, the projects proponents or third party (or parties) would undertake an investment later due, for example, to the end of the technical lifetime of the equipment(s) before the end of the crediting period or the availability of a new technology. Assess whether the remaining technical lifetime of the equipment that would have continued to be used in the absence of the project activity, as determined in the CDM-PDD or CDM-PDD-REN, exceeds the crediting period for which renewal is requested. Take into consideration the market penetration of different technologies. Evaluate the penetration rate of different technologies that are available in the market and evaluate how they could affect the baseline.	There is no overdue technology in the project as the lifetime of the technologies used was defined as 20 years as equity IRR has been calculated for the validation period ²² . the ongoing financial need derived from GS is still valid considering that the financial model validated in first crediting period projects 20 years of operation of the project. Hence, the model is still valid

²² Validation Report Ver 02

		for the current crediting period ²³ .
Step 1.4	Assess whether data and parameters that were only determined at the start of the crediting period and not monitored during the crediting period are still valid or whether they should be updated. Updates should be undertaken in the following cases: - Where IPCC default values are used, the values should be updated if any new default values have been adopted and published by the IPCC, for example, in guidelines for national GHG inventories, IPCC assessment report or special reports by the IPCC; - Where emission factors, values or emission benchmarks are used and determined only once for the crediting period, they should be updated, except if the emission factors, values, or emission benchmarks are based on the historical situation at the site of the project activity prior to the implementation of the project and cannot be updated because the historical situation does not exist anymore as a result of the CDM project activity. <i>If the application of Steps 1.1, 1.2, 1.3 and 1.4 confirmed that the current baseline as well as data and parameters are still valid for the subsequent crediting period, then this baseline, data and parameters can be used for the renewed crediting period. Otherwise, proceed to Step 2.</i>	The combined margin is updated as per OM & BM calculations by Ministry of Energy and Resources ²⁴. Hence the assessment should proceed to Step 2.

²³ Financial Model: [Financial Model\Cataloluk Financial Model 21_10_2011_44years.xlsx](#)

²⁴

<https://enerji.gov.tr//Media/Dizin/EVCED/tr/%C3%87evreVe%C4%B0klm/%C4%B0klmDe%C4%9Fi%C5%9Fikli%C4%9Fi/TUESEmisyonFktr/Belgeler/Bform2020.pdf>

Step 2	Update the current baseline and the data parameters.	The data and the parameters are updated for the second crediting period.
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Turkish electricity generation is mainly composed of thermal power plants and the share of renewable resources; especially hydroelectric power plants have decreased significantly in recent years whereas share of wind power plants is still very low. Since Turkey is an advanced developing country, there is an increasing demand for electricity which is fully expected to continue in the foreseeable future.

The trend in Turkey to date and given historically slow development of alternative energy resources is to build an increasing number of thermal power plants in the future to satisfy the annual growth in energy consumption demand. Turkey as an advanced developing nation has looked at dealing with energy security by developing and constructing high-capacity coal and natural gas power plants. The development of thermal power plants has been also encouraged by the large natural resource availability in Turkey, especially the abundance of economically accessible lignite.

In the absence of the proposed project activity, the same amount of electricity is required to be supplied via either the current power plants or by increasing the number of thermal power plants thus increasing GHG emissions.

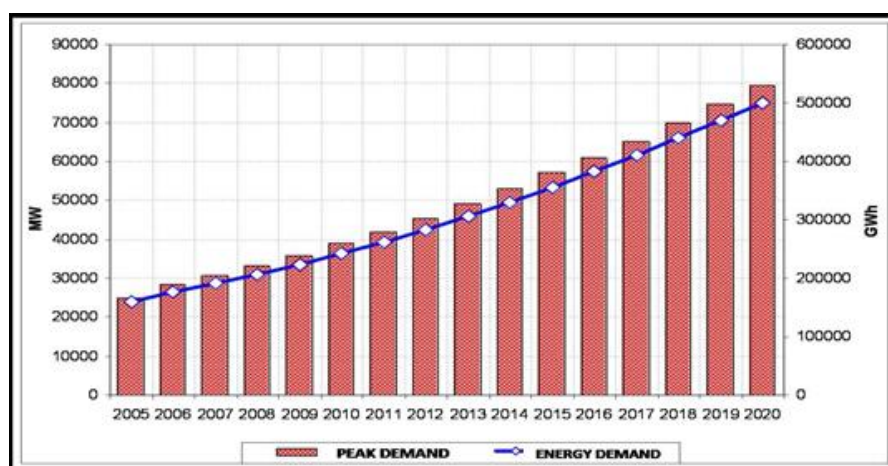


Figure 3. Peak Load and consumption projection for Turkish electricity system between 2005-2020²⁵

According to the TEIAS statistics²⁶, share of WPPs together with geothermal power plants could hardly reach 1.68% in 2010 whereas share of thermal power plants is around 74-80% in recent years. When we look at the annual development of Turkey's gross generation in recent years, we see that grid is dominated by thermal power plants and which is boosted by increasing energy demand in parallel to increase population and per capita income. Hence, baseline of Turkey's electricity grid will continue to be dominated by fossil fuel power plants which is seen as the quickest solution in short term to meet the demand and enable energy security in supply side.



Figure 4. Annual Development of Turkey's Gross Generation Capacity¹⁴

The OM and BM calculation parameters, i.e. $NCV_{i,y}$, $\eta_{m,y}$, $FC_{i,y}$, mentioned in the previous MR and PDD since there were no direct source from the ministry of energy and natural resources. However, for BM and OM values currently "TURKEY NATIONAL ELECTRICITY NETWORK EMISSION FACTOR INFORMATION FORM" is used. Hence no

²⁵ <http://www.teias.gov.tr/apkuretimplani/veriler.htm>

²⁶ [http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/uretim%20tuketim\(22-45\)/36.xls](http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2010/front%20page%202010-%C3%A7i%C3%A7ek%20kitap/uretim%20tuketim(22-45)/36.xls)

additional calculation or related data to be monitored necessary for the second crediting period²⁷.

B.5. Demonstration of additionality

Selected methodology: ACM0002, Version 21.0 "Large-scale consolidated methodology for grid-connected electricity generation from renewable sources".

Tools: "Tool to calculate the emission factor for an electricity system, version 07.0.0" & "Tool for assessment and demonstration of additionality, version 07.0" The baseline scenario for the project has been defined as "generation of equal amount of electricity by the power plants connected to the grid". Emission factor for the baseline scenario which was calculated by the Ministry of Environment and Urbanization has been used²⁸.

Within this framework, the project is expected to generate about 163,200,000 kWh electricity and reduce about 105,782 tCO₂ emissions through replacing the electricity that would need to be supplied via the national grid in the absence of the project activity.

Additionality has been demonstrated in the first crediting period. There is no change in project implementation, therefore there is no need to conduct an additionality assessment in the second crediting period.

B.5.1 Prior Consideration

This is the second crediting period. The project has no design changes.

B.5.2 Ongoing Financial Need

Expected annual generation 163,200 MWh. In terms of contribution of carbon revenues, around 162,305 GS-VER has been issued by August 2018²⁹. Until recent few years, carbon revenues have compensated most of the staff cost of project and have generated

²⁷ [..\References\ER Factors.pdf](#)

²⁸ <https://meslekihizmetler.csb.gov.tr/elektrik-enerjisinin-birincil-enerji-ve-sera-gazi-salimi-katsayilari-2021-yilindan-itibaren-kullanilmak-uzere-guncellenmistir-duyuru-411795>

²⁹ <https://registry.goldstandard.org/projects/details/144>

increase in the profit of the project. Considering that project will complete ten-year feed-in-tariff period soon, income will be lower due to lower market sales price of electricity and increasing maintenance costs. Hence, significance of carbon revenues will be higher in the following years.

TABLE 4. MAIN FINANCIAL PARAMETERS USED FOR INVESTMENT ANALYSIS

Parameters	Unit	Data Value
Installed Capacity	(MWm) MWe	(54.7) 50.0 ³⁰ (previous capacity was 45 MWe, before capacity extension)
Grid Connected Output	GWh	163.2 (for between 2014 and July of 2020 which is the expected two ne turbines commissioning date) and 175.0 (after capacity extension from July 2020 to 2033) details are present in IRR calc. document cash flow sheet
Capital Investment	Million \$	97.6 (113.4 after capacity extension)
Income tax rate	%	20 ³¹
Depreciation	Years	25 for electromechanical equipment 40 for other facilities ³²
Exchange rate	€ / \$	1.32 ³³
Expected Tariff	\$ Cents/kWh	7.3 ³⁴
Expected VERs price	\$/ tons CO2e	6.5
Operation & Maintenance	\$/Year	1,301 (for between 2014 and July of 2020 which is the expected two ne turbines commissioning date) and 1,362 (after capacity extension from July 2020 to 2033) details are present in IRR calc. document cash flow sheet.

For proposed project, project IRR has been calculated as 5.35% considering the values in table above, in the registered PDD (ver 06) after the "Design Change" which was finalized in 17/07/2020. The value of 5.35% was determined considering the absence of carbon revenue for license period and ignoring expropriation etc. cost. When the carbon revenue in the cash flow was included considering that the Expected price is 6.5\$/ton CO2, project IRR increases to 5.97% and the project becomes more attractive

³⁰ Amended Generation License (after capacity extension). Previous capacity is 45 MWe

³¹ <http://www.istanbulymmo.org.tr/dosya/MaliPlatform/30.%205520%20sayili%20kurumlsr%20vergisi%20kanunu%20ac%C4%B1klamalari.pdf>, page 6

³² Tulletprebon newsletter

³³ <http://www.tcmb.gov.tr/>

³⁴ http://www.enerji.gov.tr/mevzuat/5346/5346_Sayili_Yenilenebilir_Enerji_Kaynaklarinin_Elektrik_Enerjisi_Uretimi_Amacli_Kullanimina_Iliskin_Kanun.pdf, available at (I Sayılı Cetvel)

and viable for the investors as coupled with the view that energy sale prices that can be achieved from the project is likely to increase in future years.

TABLE 5. SENSITIVITY ANALYSIS FOR PROPOSED PROJECT WITHOUT CARBON REVENUE

	-10.00	-5	-2.5	0	2.5	5	10
Investment Cost	6.59	5.94	5.64	5.35	5.07	4.79	4.28
Operating Cost	5.22	5.28	5.32	5.35	5.38	5.41	5.48
Electricity Income	3.11	4.20	4.77	5.35	5.94	6.55	7.81

During the first crediting period, the following VERs has been issued in the monitoring periods as follows:

1st monitoring period: 02/02/2015 -31/10/2016 – 162,305 CERs (issued)

The ongoing financial need derived from GS certification is necessary to reduce unattractiveness of the project and enhance the project's operation in the second crediting period. This GS finance helps to maintain project activity contributing to the development of local communities in terms of income and employment creation, worker quality increase and emission reductions.

The common practice analysis was performed earlier in PDD of "Design change" and resultantly, it demonstrated that the project is additional. Therefore, the demonstration of additionality was omitted in this PDD of GS 1235 where 2nd crediting period is presented.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

Most relevant SDG Target	SDG Impact
--------------------------	------------

Sustainable Development Goals Targeted	Indicator (Proposed or SDG Indicator)
13 Climate Action (mandatory)	13.2 Integrate climate change measures into national policies, strategies and planning 13.2.2 Total greenhouse gas emissions per year
8 Decent Work and Economic Growth	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 8.5.1 Average hourly earnings of female and male employees, by occupation, age, and persons with disabilities
7 Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.2.1 Renewable energy share in the total final energy consumption

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

SDG 13

Ex-ante emission reductions (ER_y) are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year y (tCO₂)

BE_y = Baseline emissions in year y (tCO₂)

PE_y = Project Emissions in year y (tCO₂)

LE_y = Leakage emissions in year y (tCO₂)

Baseline emissions

Baseline emission is calculated according to the formula:

$$BE_y = EGP_{J,y} \times EF_{grid,CM,y}$$

Where:

$EGP_{J,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (data is gathered from energy yield assessment report of the project which is 163,200 MWh)

Emission Factor

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of TOOL07: Tool to calculate the emission factor for an electricity system (tCO₂/MWh) (Nationally accepted emission factor has been used.)

Considering this is the second crediting period and the project is a wind project, combined margin is calculated as follows:

$$CM = (BM \times 0.25) + (OM \times 0.75)$$

As given by the Ministry of Energy and Natural Resources, built margin is 0.4153 and operating margin is 0.7258³⁵.

$$(0.4153 \times 0.25) + (0.7258 \times 0.75) = 0.6482 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 163,200 \text{ MWh} \times 0.6482 \text{ tCO}_2\text{e/MWh} = 105,782 \text{ tCO}_2\text{e}$$

Project emissions

Since the project is classified as a renewable energy project, parameter $P_{EFF,y}$ is neglected.

Therefore,

$$PE_y = 0$$

³⁵ [..\References\ER Factors.pdf](#)

Leakage

No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport). These emissions sources are neglected. Also, the energy generating equipment is not transferred from or to another activity. Therefore, leakage is considered as "0".

So, final emission reduction value is 105,782 **tCO₂**/year, and 740,474 **tCO₂** for the whole crediting period of 7 years.

SDG 7

In the baseline scenario, there was no electricity generation.

With this project, the plant will generate 163.2 GWh clean energy annually as expected from the generation license.

The monitoring of the electricity generation will be performed over energy meters. Net generation will be measured and recorded via meters sealed by TEIAS for billing purposes. Power Plant Manager is responsible for the electricity generated, gathering all relevant data and keeping the records.

Generation data collected during crediting period will be submitted to GTE who will be responsible for calculating the emission reduction subject to verification. Since the project capacity extension was not approved by GS, generation from latest two turbines have decided to be excluded from GS certification and claims for GS-VER certificates will be made only for initial turbines since then. This exclusion will be done by via taking proportion ratio between the previous annual output, 163.2 GWh (indicated in first registered PDD) and present annual output 175 GWh (indicated in latest amended licence).

Accordingly, $163.2/175=0.9326$ is used to exclude the latest two turbines.

SDG 8

In the baseline scenario there was no employment opportunities.

The project is expected to create job opportunity 18 people which are already employed for the operation.

The monitoring of this SDG will be performed over the employment record provided to VVB and GTE team.

SDG 13

The project leads to mitigation of 105,782 tCO₂ per annum.

B.6.2 Data and parameters fixed ex ante

SDG13

Data/parameter	EF _{CM, y}
Unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor for the project electricity system in year y
Source of data	Ministry of Energy and Natural Resources, OM & BM values ³⁶
Value(s) applied	CM = (BM × 0.75) + (OM × 0.25) As given by the Ministry of Energy and Natural Resources, built margin is 0.4153 and operating margin is 0.7258. (0.4153 × 0.75) + (0.7258 × 0.25)= 0.6482 tCO ₂ /MWh
Choice of data or Measurement methods and procedures	The coefficients are taken as 0.75 and 0.25 for BM and OM, respectively according to the methodology.
Purpose of data	To calculate baseline emission
Additional comment	-

B.6.3 Ex ante estimation of SDG Impact

>> SDG 7: Affordable and Clean Energy (Ensure access to affordable, reliable, sustainable and modern energy for all)

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 163,200 MWh of clean energy per annum according to the micro-siting feasibility study. Hence, contribution of the project could be followed via indicator 7.2.1 "Renewable energy share in the total final energy consumption" and following target: 7.2 "By 2030, increase substantially the share of renewable energy in the global energy mix". This project increases the renewable energy sharing of global energy mix and contribute to improved air quality by reducing air pollution.

SDG 8: Decent Work and Economic Growth (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)

The project is to create minimum 18 employment opportunities. It contributes to decent work and economic growth by providing long term job opportunities.

SDG13: Climate Action (Taking urgent action to combat climate change and its impacts)

Emission factor for the baseline scenario which was calculated by the Republic of Turkey Ministry of Energy and Natural Resources has been used. Accordingly, the project leads to mitigation of 105,782 tCO₂ per annum.

Baseline emission is calculated according to the formula:

Considering this is the second crediting period and the project is a wind project, combined margin is calculated as follows:

$$CM = (BM \times 0.75) + (OM \times 0.25)$$

As given by the Ministry of Energy and Natural Resources, built margin is 0.4153 and operating margin is 0.7258.

$$(0.4153 \times 0.75) + (0.7258 \times 0.25) = 0.6482 \text{ tCO}_2/\text{MWh}$$

$$BE_y = 163,200 \text{ MWh} \times 0.6482 \text{ tCO}_2\text{e}/\text{MWh} = 105,782 \text{ tCO}_2\text{e}$$

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

SDG 13

Years	Estimation of baseline emissions in tons of tCO ₂ e	Estimation of project emissions in tons of CO ₂ e	Net Benefit in tons of CO ₂ e
2022 (02/02/2022 - 31/12/2022)	96,507.96	0	96,507.96
2023	105,782	0	105,782
2024	105,782	0	105,782
2025	105,782	0	105,782
2026	105,782	0	105,782
2027	105,782	0	105,782
2028	105,782	0	105,782
2029 (01/01/2029- 01/02/2029)	9,274.04	0	9,274.04
Total	740,474	0	740,474
Total number of crediting years	7 years		
Annual average over the crediting period of estimated reductions (tons of CO ₂ e)	105,782	0	105,782

SDG 7

Years	Baseline Estimate (MWh)	Project Estimate (MWh)	Net Benefit (MWh)
2022 (02/02/2022 - 31/12/2022)	0	148,892	148,892
2023	0	163,200	163,200
2024	0	163,200	163,200
2025	0	163,200	163,200
2026	0	163,200	163,200
2027	0	163,200	163,200
2028	0	163,200	163,200

2029 (01/01/2029- 01/02/2029)	0	14,308	14,308
Total	0	1,142,400	1,142,400
Total number of crediting years	7 years		
Annual average over the crediting period	0	163,200	163,200

SDG 8

Year	Baseline estimate (number of people employed by the project)	Project estimate (number of people employed by the project)	Net benefit (number of people employed by the project)
2022-2029	0	At least 18 people	At least 18 people
Total	0	At least 18 people	At least 18 people
Total number of the crediting years	7 years		
Annual average over the crediting period	0	At least 18 people	At least 18 people

B.7. Monitoring plan

B.7.1 Data and parameters to be monitored

* The reduction in NO_x, PM, and SO₂ emissions will have a favorable effect on air quality, but these parameters will not be monitored, due to the lack of technical possibilities in measurement of those, as well as the accuracy of the measurement is not up to standards.

SDG 13

Data / Parameter	Air Quality
Unit	tCO ₂

Description	Reduction of CO2 emissions due to the implementation of project activity
Source of data	Electricity generated by ÇANTA WPP and calculated combined margin (CM) emission factor is used as reference in calculation of the emission reduction.
Value(s) applied	Estimated annual emission reduction is 105,782 tonnes of CO2e
Measurement methods and procedures	The net electricity supplied by the project will be continuously measured and recorded by EPIAŞ and will be kept by meters using at the project site will be used for comparison.
Monitoring frequency	Once every monitoring period.
QA/QC procedures	
Purpose of data	To calculate the baseline emission value; and, to monitor the contribution to SDG 13 (Take urgent action to combat climate change and its impacts)
Additional comment	

SDG 7

Data / Parameter	$EG_{\text{facility},y}$
Unit	MWh/y
Description	Quantity of net electricity generation supplied by the project plants/units to the grid in year y
Source of data	EPIAS records and on-site meters.
Value(s) applied	163,200 MWh/yr
Measurement methods and procedures	Project capacity extension studies have been initiated in 27/08/2015 with the amendment to the EPDK license, 26/09/2017 turbine agreement and however,

	construction could be started in end of 2018. Since application to GS could not be made within one year of project start date, extension part of the project was found to be not eligible for GS certification in 17/07/2020. Therefore, generation from latest two turbines have decided to be excluded from GS certification and claims for GS-VER certificates will be made only for initial turbines since then. This exclusion will be done by via taking proportion ratio between the previous annual output, 163.2 GWh (indicated in first registered PDD) and present annual output 175 GWh (indicated in latest amended licence). Accordingly, $163.2/175=0.9326$ is used to exclude the latest two turbines. Hence, the total electricity in this monitoring period will be measured as $EG_{PJ,grid,i,y} \times 0.9326 = EG_{facility,y} \text{ MWh}$
Monitoring frequency	Continuous measurement / Monthly recording
QA/QC procedures	Calibration of the meters are valid for 10 years based on related regulation. The meters should also comply with EPDK regulations which define the accuracy class of the meters as 0.2 or 0.5 depending on the capacity of the circuit. Maintenance and calibration of the metering devices are made by TEIAS. If there is a noticeable difference between the readings of two devices, maintenance and tests of the metering devices and the associated equipment is done before waiting for the periodical maintenance. In cases where electricity meters are regulated (e.g., the electricity is supplied to the electric grid), the electricity meter is subject to regular maintenance and testing in

	accordance with the stipulation of the meter supplier and/or as per the requirements set by the grid operators or national requirements. *The main and spare meter were replaced, and first index protocol was performed on 23/12/2020															
	<table><tr><td></td><td>Main Meter</td><td>Spare Meter</td></tr><tr><td>Serial no.</td><td>9798945</td><td>9798946</td></tr><tr><td>Brand</td><td>EMH</td><td>EMH</td></tr><tr><td>Class</td><td>0.5</td><td>0.5</td></tr><tr><td>Type</td><td>LZQJ-XC</td><td>LZQJ-XC</td></tr></table>		Main Meter	Spare Meter	Serial no.	9798945	9798946	Brand	EMH	EMH	Class	0.5	0.5	Type	LZQJ-XC	LZQJ-XC
	Main Meter	Spare Meter														
Serial no.	9798945	9798946														
Brand	EMH	EMH														
Class	0.5	0.5														
Type	LZQJ-XC	LZQJ-XC														
Purpose of data	ER calculations															
Additional comment																

SDG 8

Data / Parameter	Quantitative employment and income generation										
Unit	-										
Description	Number of employments										
Source of data	Through evaluation of social security documents										
Value(s) applied	At least 18 job opportunities are created. As seen tables below, 7 people are skilled workers having the occupations of site managing, plant operation, maintenance etc. 11 people are non-skilled workers. 1 of them is janitor and 10 is security. <table><tr><th></th><th><u>PLANT</u></th><th><u>STATUS</u></th><th><u>NAME</u></th><th><u>OCCUPATION</u></th></tr><tr><td>1</td><td>Çanta WPP</td><td>Active</td><td>SEÇKİN DEMİR</td><td>SITE MANAGER</td></tr></table>		<u>PLANT</u>	<u>STATUS</u>	<u>NAME</u>	<u>OCCUPATION</u>	1	Çanta WPP	Active	SEÇKİN DEMİR	SITE MANAGER
	<u>PLANT</u>	<u>STATUS</u>	<u>NAME</u>	<u>OCCUPATION</u>							
1	Çanta WPP	Active	SEÇKİN DEMİR	SITE MANAGER							

	2	Çanta WPP	Active	AHMET ERARSLAN	SHIFT OPERATOR																																																						
	3	Çanta WPP	Active	ŞAKİR ERDAL	PLANT OPERATOR																																																						
	4	Çanta WPP	Active	SELÇUK KAYNAR	JANITOR																																																						
	5	Çanta WPP	Active	MEHMET CAN KARAKULAK	PLANT OPERATOR																																																						
	6	Çanta WPP	Active	OĞUZHAN ATEŞ	PLANT OPERATOR																																																						
	7	Çanta WPP	Active	Ali KINAY	PLANT OPERATOR																																																						
	8	Çanta WPP	Active	MUSTAFA KORKAN	TURBINE MAINTAINANCE																																																						
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Measurement methods and procedures	-																																																										
Monitoring frequency	Annually																																																										
QA/QC procedures	-																																																										
Purpose of data	To monitor the contribution to SDG 8																																																										
Additional comment																																																											

Data / Parameter	Quality of Employment			
Unit	-			
Description	HSE trainings			
Source of data	Training attendance list and/or certificates			
Value(s) applied	Staff to be trained for health and safety issues			
Measurement methods and procedures	8 employees will attend trainings on health & safety.			
		<u>PLANT</u>	<u>NAME</u>	<u>DATE</u>
	1	Çanta WPP	SEÇKİN DEMİR	06/04/2021
	2	Çanta WPP	AHMET ERARSLAN	06/04/2021
	3	Çanta WPP	ŞAKİR ERDAL	25/09/2018
	4	Çanta WPP	SELÇUK KAYNAR	06/04/2021
	5	Çanta WPP	MEHMET CAN KARAKULAK	06/04/2021
	6	Çanta WPP	OĞUZHAN ATEŞ	planning
	7	Çanta WPP	Ali KINAY	27/01/2022
	8	Çanta WPP	MUSTAFA KORKAN	06/04/2021
Monitoring frequency	Annually (Once at the end of each monitoring period)			
QA/QC procedures	The training programmes help increase the efficiency of the workforce and provides employees skilled at their job. This not only helps the company but to self-improvement of individual employees.			
Purpose of data	To contribute to Principle 6.1 and Principle 3.			
Additional comment	8 employees have been trained on HSE on 24-25/09/2018, 05-06/04/2021, 27/01/2022 and planned for the near future.			

SDG 9

Data / Parameter	Principle 9.4 Release of Pollutants -Air Quality
Unit	-
Description	Taking necessary actions to prevent dust emission during construction.

Source of data	Pictures from the site and interviews with locals
Value(s) applied	No air pollution due to dust in baseline scenario
Measurement methods and procedures	At regular intervals, irrigation will be done on the ways to prevent dust emission during construction.
Monitoring frequency	Once at first verification
QA/QC procedures	-
Purpose of data	To contribute to Principle 9.4
Additional comment	-

Data / Parameter	Principle 9.4 Release of Pollutants -Water Quality and Quantity
Unit	-
Description	Appropriate disposal of wastewater as required by the Law on Water Pollution Control
Source of data	Assessing collection and disposal methods during site visits and checking disposal records
Value(s) applied	According to the project manager, since the company have been a client of İSKİ for a long time, they do not pay sewage truck fees to İSKİ(Istanbul Water and Sewerage Administration). There is,however, a payment record of TRY 128.62, on 05.03.2018 and TRY 128.62, on 04.09.2018, which indicates that sewage truck arrives at the project area to collect wastewater.
Measurement methods and procedures	Domestic wastewater will be collected and disposed to the sewage system via trucks; and the disposal records will be kept by the Project Owner. Collection methods and waste disposal records will be checked during site visits.
Monitoring frequency	Annually
QA/QC procedures	

Purpose of data	To contribute to Principle 9.4
Additional comment	

Data / Parameter	Principle 9.4 Release of Pollutants -Soil Condition
Unit	-
Description	Handling of excavated soil
Source of data	Photos from the site or interviews
Value(s) applied	Excavated soil is handled according to Turkish Regulations 2021
Measurement methods and procedures	During construction, soil has been stored in the excavated soil storage area in order to be reused for filling of turbine foundation and landscaping purposes.
Monitoring frequency	Once at first verification
QA/QC procedures	-
Purpose of data	To contribute to Principle 9.4
Additional comment	-

Data / Parameter	Principle 9.5 Hazardous and Non-hazardous Waste - Noise Pollution
Unit	-
Description	Level of noise
Source of data	Site visit observations and interviews
Value(s) applied	No noise caused by turbines in the baseline scenario
Measurement methods and procedures	Environmental Impact Assessment of Cantu WWP indicates the level of noise expectation is to be below the limits during the operation phase of the project. Noise measurement report is provided which is dated 04/2021.
Monitoring frequency	Annually
QA/QC procedures	-

Purpose of data	To contribute to Principle 9.5
Additional comment	-

Data / Parameter	Principle 9.5 Hazardous and Non-hazardous Waste - Waste Oil
Unit	-
Description	Proper management of waste oil
Source of data	Assessing disposal methods during site visits and checking waste oil disposal records.
Value(s) applied	Hazardous waste disposal statement is provided by the project owner. The disposal statements are dated; 08/07/2021, 07/05/2021, 29/03/2021, 24/10/2020 and 14/08/2020.
Measurement methods and procedures	Waste oil from equipment will be collected properly in line with the relevant regulation and disposed via accredited abatement companies. Waste oil will be disposed in line with regulation # 26952 on control of waste oils ³⁷ .
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	To contribute to Principle 9.5
Additional comment	-

Data / Parameter	Principle 9.11 Endangered Species -Biodiversity
Unit	-
Description	Ensuring that the project creates no disturbance to the regional habitat

³⁷ Regulation: *Atık Yağların Kontrolü Yönetmeliği*, numbered 26952, dated 30.07.2008
<http://www.mevzuat.gov.tr/Metin.Aspx?MevzuatKod=7.5.12290&MevzuatIliski=0&sourceXmlSearch>

Source of data	Assessments during site visits and observation (ornithology) reports
Value(s) applied	No disturbance to the regional habitat in the baseline scenario
Measurement methods and procedures	Assessments during site visits and observation (ornithology) reports Ornithology reports are provided to the DOE. Such as the one dated July 2019. Ornithology studies have been conducting to ensure there is no disturbance to the regional habitat ³⁸ .
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	To contribute to Principle 9.11
Additional comment	-

B.7.2 Sampling plan

>>

B.7.3 Other elements of monitoring plan

>> Monitoring is a key procedure to verify the real and measurable emission reductions from the proposed project. To guarantee the proposed project's real, measurable, and long-term GHG emission reductions, the monitoring plan is established.

Net electricity generation is measured and recorded via meters sealed by TEIAS for billing purposes. Therefore, no new additional protocol will be needed for monitoring emission reduction. Power Plant Manager is responsible for the electricity generated, gathering all relevant data and keeping the records.

Generation data collected during crediting period will be submitted to GTE who will be responsible for calculating the emission reduction subject to verification. Generation data will be used to prepare monitoring reports which will be used to determine the

³⁸ Ornithology Report for Cantá WPP

vintage from the project activity. These reports will be submitted to the duly authorized and appointed Designated Operational Entity 'DOE' before each verification period.

VER Team Members is expected to include the following staff:

Plant Manager: Responsible for running the plant and compliance with VER monitoring plan.

Accounting Manager: Responsible for keeping data about generation and consumption.

GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Ticaret A.Ş.: Responsible for emission reduction calculations, preparing monitoring report and periodical verification process.

The calibration and maintenance of the meters will be carried out in line with the by law on Metering and Metering Devices³⁹. Accordingly, the meters are calibrated and sealed by TEIAS before the commissioning of the power plant. The meters will be calibrated by TEIAS when there is an inconsistency between two devices. EPIAS records will be used as the primary source of data for electricity generation since the billing is based on the EPIAS records. Generation of the plant can be monitored from EPIAS web platform which is accessible using a password provided to electricity generation companies. ISVM (Electricity fed to the grid) and UECM (Electricity consumed from the grid) data given in EPIAS records will be used for emission reduction calculations. Electricity generation of the Canta WPP will be cross checked by using the records of metering devices at project site. Two metering devices (one of them used as spare) will be used for monitoring the electricity generated by the power plant

Both main meter and spare meter were replaced on 23/12/2020. Technical properties of both removed and placed meters are shown in the table below.

TABLE 6. TECHNICAL PROPERTIES OF THE METERS⁴⁰

Placed Meters	Removed Meters
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³⁹ <http://www.mevzuat.adalet.gov.tr/html/21179.html>

⁴⁰ TEİAŞ Sayaç Değişim tutanağı, 23/12/2020

	Main Meter	Spare Meter	Main Meter	Spare Meter
Serial no.	9798945	9798946	00471064	00471066
Brand	EMH	EMH	ELSTER	ELSTER
Class	0.5	0.5	0.5	0.5
Type	LZQJ-XC	LZQJ-XC	A1500	A1500

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1 Start date of project

>> Start date of project activity is determined as 26/03/2012, date of turbine agreement.

C.1.2 Expected operational lifetime of project

>> The operational lifetime of the project is about 49 years as per the license issued. According to the technical lifetime of turbines which is given as 25 years as per the tool⁴¹ and also estimated as 20 years by experts, turbines will be renovated or replaced, and project will continue to be operated by the project owner until end of the license period. Project will be delivered to government authority at no cost at the end of license period.

C.2. Crediting period of project

C.2.1 Start date of crediting period

>>The first crediting period is between 02/02/2015-01/02/2022 (both dates included).

The second crediting period is between 02/02/2022 –01/02/2029 (both dates included).

C.2.2 Total length of crediting period

⁴¹ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-10-v1.pdf>

>>7 years

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in [Appendix 1](#), ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan
Principle 3	
Community	Staff receive relevant trainings. They also were trained during
Health, Safety	construction operation phases. Trainings given to the staff can
and Working	be exemplified such as general HSE, risk, first aid, etc.
Conditions	
Principle 4.1- Sites of Cultural and Historical Heritage	The measurement between the turbines and the tumulus was performed and, according to the provided Google Earth picture, the heritage area is 206 m away from the closest turbine. Hence, in the feasibility report, it has been revealed that the project area is not included in these heritage areas according to the examinations made on the national parks, natural monuments, nature protection areas, and nature parks. Moreover, these areas are also not in the range of any construction or maintenance activities . Hence there is no mitigation required.
Principle 6.1 Labor Rights	All employees will be trained and certified for the required positions. All employees will attend trainings on first aid and health & safety. Training Records (including H&S) & Other Certificates are required for certain professions. HSE records will be kept in case of any injury happened on-site. For positions that require specific skills (such as high voltage equipment) staff will either be trained, or certified staff will be recruited. HSE records will be kept annually and provided if there is any injury at the

	site. The training programs help increase the efficiency of the workforce and provides employees skilled at their job. This not only helps the company but to self-improvement of individual employees.
Principle 9.4 Release of Pollutants	Appropriate disposal of wastewater as required by the Law on Water Pollution Control. Waste collection methods during site visits will be assessed and waste disposal records will be checked.
Principle 9.5 Hazardous and Non- hazardous Waste	Proper Management of Waste Oil-Hazardous waste disposal statement is provided by the project owner. The disposal statements are dated; 08/07/2021, 07/05/2021, 29/03/2021, 24/10/2020 and 14/08/2020. Waste oil delivered to the licensed company on 26.06.2015 and on 26.05.2016. Related documents were provided to DOE.
Principle 9.11 Endangered Species	It will be ensured that the project does not create disturbance to the regional habitat by regular site vetting for bird/bat nests and carcasses and recording of the same will be performed along for the ornithological monitoring. Verification of these parameters will be carried out once in every monitoring period.
Principle 9.5 Noise Pollution	Noise measurement report is provided which is dated 04/2021. Environmental Impact Assessment of Canta WWP indicates the level of noise expectation is to be below the limits during the operation phase of the project.

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

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	As stated in Gold Standard Gender Policy document, "foundational gender sensitive certification" which is mandatory for every project requires compliance with the gender 'do no harm' safeguard, gender-gap analysis and gender sensitive stakeholder consultations. Although the project is a renewable energy project and does not
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	have negative impacts on men and women, it complies with the criteria mentioned. Moreover, Turkey has ratified ILO convention 100 and 11142 and discrimination based on gender is illegal in Turkey. The project tries to align with the national gender strategy. So, the project does not involve and is not complicit in any form of discrimination based on gender difference.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project aims to create new employment, and income opportunities within the scope of SDG 8. While doing this, a gender-equal strategy is implemented by creating employment opportunities for both man and woman without discrimination. According to the Woman Empowerment Strategy Paper and Action Plan prepared by the Ministry of Family and Social Policies (2018), there are 21 targets classified under 5 main fields in order to enhance participation of women to the society.⁴³ In this action plan regarding the years 2018 – 2023, economy and employment-oriented strategies are represented for women since the labor force activity of women is not at desired level compared to the EU countries. According to 2017 statistics tabulated in the report, labor force activity of women is declared as 33.6%⁴⁴ and it is aimed that

⁴² https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/genericdocument/wcms_645630.pdf

⁴³

http://www.sp.gov.tr/upload/xSPTemelBelge/files/RySPo+KADININ_GUCLENMESI_STRATEJI_BELGESI_VE_EYLEM_PLANI_2018-2023_.pdf, Page 17

⁴⁴

http://www.sp.gov.tr/upload/xSPTemelBelge/files/RySPo+KADININ_GUCLENMESI_STRATEJI_BELGESI_VE_EYLEM_PLANI_2018-2023_.pdf, Page 76

	this percentage will be 41% in 2023. ⁴⁵ Accordingly, the project shows parallelism with the national strategies developed for women.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	Turkey has ratified ILO convention 100 and 111 ⁴⁶ and discrimination based on gender is illegal in Turkey. The project tries to align with the national gender strategy. So, the project does not involve and is not complicit in any form of discrimination based on gender difference. Therefore, an Expert is not required for the Gender Safeguarding Principles & Requirements.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	An Expert is not required to assist with Gender issues at the Stakeholder Consultation. All stakeholders were invited to the Local Stakeholder Meeting without gender discrimination. Both women and men were invited and participated during Stakeholder Consultation.

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

The below is a summary of the 2 step GS4GG Consultation for monitoring purposes. Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

E.1 Summary of stakeholder mitigation measures

>> For the renewal of crediting period of Cantu WPP, a remote stakeholder consultation was performed on 30.03.2022 and no negative comments were received from the local

⁴⁵

http://www.sp.gov.tr/upload/xSPTemelBelge/files/RySPo+KADININ_GUCLENMESI_STRATEJI_BELGESI_VE_EYLEM_PLANI_2018-2023_.pdf, Page 79

⁴⁶ https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---ilo-ankara/documents/genericdocument/wcms_645630.pdf

people and mukhtar. Also, the signed declaration from the mukhtar for the grievance book has been provided to VVB and the location of book is easily accessible by all villagers.

In order to prepare for the feedback round, a summary of the consultation report prepared in Turkish was sent to the identified stakeholders and participants through mail or local authorities. International offices of Helios International, Mercy Corps and local representative of GS were included in the feedback round also.

Soft copies of the project documents were available on the web site of GTE (www.gtecarbon.com). Hard copies of the LSC Report and/or Passport will be available during the 2-month long feedback round for those who do not have internet access.

SFR for Cantá WPP was initiated on 11/10/2013 and is finalized on 13/01/2014. Feedbacks collected are supportive of the project. For the documents related to the organization of the SFR and the feedbacks, please, see the Gold Standard Passport. During the stakeholder consultation meeting, no significant issues have been raised by the participants that would make a revisit required for the sustainable development.

E.2 Final continuous input / grievance mechanism

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	There is a grievance box kept but there is no comment received so far. The grievance book picture and the declaration of the mukhtar are provided to the VVB.
GS Contact (mandatory)	help@goldstandard.org
Other	

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

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

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as	Yes No	1.Turkey has ratified European Convention on Human Right on 10/03/1954 ⁴⁷ . Therefore, the project is not expected to violate the rules regarding human rights.	1. Project Owner respects and follows human rights and will never be complicit in violence or human rights abuses. If any complaint is received by the Project Owner, they will act on the issue right away

⁴⁷ https://www.echr.coe.int/Documents/CP_Turkey_ENG.pdf

defined in the Universal Declaration of Human Rights The Project shall not discriminate with regards to participation and inclusion		2.Turkey has ratified European Convention on Human Right on 10/03/1954. Therefore, the project is not expected to violate the rules regarding human rights.	throughout the lifetime of project activity. 2. Participation and inclusion of all employees will be ensured by PD, thought the lifetime of the project activity.
Principle 2. Gender Equality			
The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women Projects shall apply the principles of non-discrimination, equal	Yes Yes Yes	1. Project will not discriminate employment for women and men and will provide the same opportunities and rights to both gender. 2. Project will pay equal treatment, and proper pay to	1. Project Owner prioritizes inclusion and participation of both men and women. In case of employment, women will have the same opportunities and rights as men do, their employment will be done according to national laws and regulations on employment ⁴⁸

⁴⁸ Employment Law (22/07/2003) (no. 4857) <https://www.mevzuat.gov.tr/mevzuatmetin/1.5.4857.pdf>

treatment, and equal pay for equal work The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks (Where required) Summary of opinions and recommendations of an Expert Stakeholder(s)		women also as per national wages act. 3. Project shall follow to the country's national gender strategy and ILO convention 100, 111, 122 and 142 which Turkey has ratified. 4. Expert Stakeholder opinion is not required.sen	and equal opportunities for men and women⁴⁹. 2.The working conditions as well as the wages of women will be the same as men and will be according to national laws and regulations, as described. Project will pay equal treatment, and proper pay to women also as per national wages act. 3. Country's national gender strategy or equivalent national commitment to aid in assessing gender risks will be considered. Project shall
---	--	--	--

⁴⁹ Commission Of Equal Opportunities For Men And Women (25/02/2009) (no. 5840) <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5840.pdf>

			follow to the country's national gender strategy and ILO convention 100, 111, 122 and 142. It also shows parallelity with national strategies prepared for women employment by creating opportunities for all. 4.Expert Stakeholder opinion is not required.
Principle 3. Community Health, Safety and Working Conditions			
The Project shall avoid community exposure to increased health risks and shall not adversely affect the	Yes	Turkey has ratified ILO convention 155 and about work safety and precautions ⁵⁰ Dust, noise and shadow flickering are expected during	Staff receive relevant trainings. They also were trained during construction operation phases. Trainings given to the staff can be

⁵⁰ https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/occupational-safety-and-health/WCMS_356966/lang--en/index.htm

health of the workers and the community		operation period. Noise will be expected also during both construction and operation period.	exemplified such as general HSE, risk, first aid, etc.
Principle 4.1 Sites of Cultural and Historical Heritage			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	In the examinations made, it has been determined that the turbines 9, 15, 16, 20 are located in the area where the Sivritepe I and Sivritepe II Tumulus and Karaköy Mound, which are within the boundaries of 1st Degree Cultural Heritage, are located. These turbine locations should be removed from the area of 100 m ⁵¹ .	The measurement between the turbines and the tumulus was performed and, according to the provided Google Earth picture, the heritage area is 206 m away from the closest turbine. Hence, in the feasibility report, it has been revealed that the project area is not included in these heritage areas according to the examinations made on the
>>			

⁵¹ ÇANTA RES FEASIBILITY REPORT [..15. 27.06.2011 tarihli Fizibilite Raporu\CANTA RES 20110627.pdf](#)

			national parks, natural monuments, nature protection areas, and nature parks. Moreover, these areas are also not in the range of any construction or maintenance activities ⁵² . Hence there is no mitigation required.
Principle 4.2 Forced Eviction and Displacement			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	For the project resettlement is not required.	No mitigation is required for this indicator.
>>			

⁵² ÇANTA RES FEASIBILITY REPORT [..\15. 27.06.2011 tarihli Fizibilite Raporu\CANTA_RES_20110627.pdf](#)

Principle 4.3 Land Tenure and Other Rights			
Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?	Yes	a) Project does not involve any settlement area. Expropriation studies were carried out and finalized as per the regulations and verified during first monitoring period. b) There is no uncertainty. Related permits and payments for expropriation were completed.	There are state-owned lands such as forest areas within the project site and permits were be taken in accordance with the relevant legislation. Moreover, For the remaining private owned lands, expropriation studies were completed.
>>			
Principle 4.4 - Indigenous people			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on	No	-	No mitigation is required for this indicator.

land/territory claimed by indigenous peoples?			
>>			
Principle 5. Corruption			
The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	Turkey has ratified several conventions on bribery and corruption including OECD and UN conventions ⁵³	No mitigation is required for this indicator.
Principle 6.1 Labour Rights			
The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards	Yes Yes Yes No Yes	1.Project owner ensures that all employment and HSE activities will be done according to the Law of Health And Safety. ⁵⁴ 2.Turkey has ratified ILO 87 and 98 conventions.	1.Social security records will be checked for employment as per law. 2.Workers/employees can join labour organisations, as there are no restrictions from the Project Owner and as per

⁵³<http://www.masak.gov.tr/en/LaunderingProceedsofCrime/Chronology.htm>

⁵⁴ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

embodied in the ILO fundamental conventions Workers shall be able to establish and join labour organisations Working agreements with all individual workers shall be documented and implemented and include: Working hours (must not exceed 48 hours per week on a regular basis), AND Duties and tasks, AND Remuneration (must include provision for payment of overtime), AND		3.All employee will be recruited according to the national legislations. 4. Turkey is a party of IPEC^{55, 56} since 1992 and ratified ILO convention 138 and 182⁵⁷. 5. Turkey has ratified ILO convention 155 and about work safety and precautions.	Project Owner's internal procedures. 3.Working agreements with workers/employees specifying working hours, job responsibilities, details of overtime compensations, health insurance details, leave aspects, termination of contract rules. 4.Social security records can be checked for employment of any child labour in site. 5. Staff will be trained during construction and operation phases, such as general HSE, risk, first aid,etc.
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⁵⁵ <http://www.ilo.org/ipec/programme/lang--en/index.htm>

⁵⁶ <http://www.ilo.org/ipec/Regionsandcountries/lang--en/index.htm>

⁵⁷ <http://www.ilo.org/public/turkish/region/eurpro/ankara/about/sozlesmeler.htm>

Modalities on health insurance, AND Modalities on termination of the contract with provision for voluntary resignation by employee, AND Provision for annual leave of not less than 10 days per year, not including sick and casual leave. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency			Accident/incident records, emergency response procures and trainings given related to it, that are provided to workers/employees.
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preparedness and response measures			
Principle 6.2 Negative Economic Consequences			
Does the project cause negative economic consequences during and after project implementation?	No	The project involved electricity generation from local and renewable sources. Since Turkey is dependent on import fuel (mainly natural gas and coal), project will not generate any risk but contribute to local economy.	No mitigation is needed for this indicator.
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	As a renewable energy power plant, the project will contribute to "Emissions Reductions or Removals and/or Adaptation to Climate Change" by reducing CO2 emissions caused by fossil fuel-fired power plants that	No mitigation measure is required for this indicator.
>>			

		are displaced due to the project activity, in line with GS4GG principles with the mitigation of a calculated amount of 105,782 tonnes of CO2e, in this monitoring period.	
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The Project will not affect the availability and reliability of energy supply to other users since the project is connected to national Grid and provides 163.2 GWh additional electricity to the national grid as per energy assessment studies. Moreover, Project is connected to national grid and may consume very low amount of electricity when	No mitigation measure is required for this indicator.
>>			

		there is no generation by the wind turbines. Consumption will be just to operate control systems and overall lighting etc. in the management building. The amount consumed from the grid will be insignificant compared to grid generation and electricity generated by the proposed project and will not impact access of locals to electricity. There will not be any other local fuel source used.	
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow	No	The Project does not have any expected effects on the natural or pre-existing pattern of watercourses, groundwater and/or the watershed(s) since	No mitigation measure is required for this indicator.

variability, flooding potential, lack of aquatic connectivity or water scarcity?		land use will be limited to access road, facility building and turbine basements.	
>>			
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The Project does not have any expected effects on erosion or water body instability since land use will be limited to access road, facility building and turbine basements. In addition, excavated soil will be reused for filling of turbine foundation and landscaping purposes ⁵⁸	No mitigation measure is required for this indicator.
>>			

⁵⁸ Letter of Istanbul metropolitan Municipality dated 22.04.2013.

Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	No	Land use will be limited to access road, facility building and turbine basements. Most of the land area covered by the project is forest land and belongs to state. Three turbines location are owned privately. Land use will be limited to basements and access roads ⁵⁹ .	No mitigation measure is required for this indicator.
>>			
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence,	No	Project will not lead to increased climatic conditions or hazards. Design of the	No mitigation measure is required for this indicator.

⁵⁹ Project Introductory Document (PID) page 58

landslides, erosion, flooding, drought or other extreme climatic conditions?		project has been made considering those factors ⁶⁰ .	
>>			
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The project activity is not relevant to the use of genetically modified organisms or GMOs since it is a renewable energy power plant.	No mitigation measure is required for this indicator.
>>			
Principle 9.4 Release of pollutants			

⁶⁰ Project Introductory Document (PID) page 13-48

Could the Project potentially result in the release of pollutants to the environment?	Yes	Excavation soil, domestic wastewater, waste oil and solid waste is expected to be generated. However, they will not result in adverse effects on the environment since they will be managed as per the requirements of national legislation. Assessment of cumulative noise impact for the Project summarize that the operation of wind farms will have no cumulative noise effect on the settlements. Details analysed in EIAS report of the Project ⁶¹ .	Project will not have any adverse impact on water quality and quantity. Domestic wastewater will be collected and disposed to the sewage system. Domestic solid waste handled in accordance with related regulation ²⁶ and disposed to nearest garbage container of the municipality. All the other generated waste will be handled according to the national regulation "Turkish Water Pollution Control Regulation". All excavation soils used for road construction, turbine
>>			

⁶¹ Project Introductory Document (PID) page 13

			platform area, cable channel, foundation backfill. Excavation was used in levelling of the land. The project does not have any point or fugitive emission and heating source emissions during operation other than an emergency diesel generator. Moreover, no mitigation measure is required for noise pollution due to related justification.
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	Yes	Project does not create any adverse impact on the local environment due to the handling, storage, transport and disposal of the hazardous waste generated during the construction and is comply	Waste oil from equipment is collected properly in line with the relevant regulation and disposed via accredited abatement companies. Waste oil will be disposed in line with regulation # 26952 on control
>>			

		with the requirements of the Turkish Regulation ⁶²	of waste oils. Monitoring parameters defined for each relevant principle.
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	The Project activity is not relevant to the application of pesticides and/or fertilisers since it is a renewable energy power plant and land use will be limited to access road, facility building and turbine basements.	No mitigation measure is required for this indicator.
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	There is no need for harvesting forests.	No mitigation is needed for this indicator.
>>			

⁶² Regulation: Katı Atıkların Kontrolü Yönetmeliği, numbered 20814, dated 14.03.1991

Principle 9.8 Food			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is not relevant since it is a renewable energy project.	No mitigation is needed for this indicator
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	The project is not relevant since it is a renewable energy project.	No mitigation is needed for this indicator.
>>			
Principle 9.10 High Conservation Value Areas and Critical Habitats			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The Project does not have any expected effects on modification of the quantity or nutritional quality of food available such as through crop regime alteration or export or	No mitigation is needed for this indicator.

>>		economic incentives since it is a renewable energy power plant.	
Principle 9.11 Endangered Species			
a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	As a renewable energy power plant, the Project does not involve any animal husbandry.	No mitigation measure is required for this indicator.
>>			

APPENDIX 2- CONTACT INFORMATION OF PROJECT PARTICIPANTS

Organization name	RHG Enertürk Enerji Üretim ve Ticaret A. Ş.
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APPENDIX 3- LUF ADDITIONAL INFORMATION

N/A

APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

Project capacity extension studies have been initiated in 2017 via turbine agreement however, construction could be started in end of 2018. Since application to GS could not be made within one year of project start date, extension part of the project was not eligible for GS certification. Therefore, generation from latest two turbines have been excluded from GS certification and claims for GS-VER certificates will be made only for initial turbines. This exclusion will be done by via taking proportion ratio between the previous annual output, 163.2 GWh (indicated in first registered PDD) and present annual output 175 GWh (indicated in latest amended licence).

Accordingly,

$163.2/175=163.2/175=0.9326$ is used to exclude the latest two turbines.

Hence, the total electricity in this monitoring period will be measured as

$$EG_{PJ,grid,i,y} \times 0.9326 = EG_{facility,y} \text{ MWh}$$

Revision History

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