المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL

Project Submission Form

V4.0- 2022

CONTENTS

COVER PAGE- Project Submission Form (PSF)

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title of the Project Activity as per LON/LOA	**Astronergy Solar Turkey 3**
PSF version number	02
Date of completion / Updating of this form	23/11/2022
Project Owner(s) as per LON/LOA (Shall be consistent with De-registered CDM Type B Projects)	Astronergy Solar Turkey Enerji A.Ş. GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Tic. A.Ş.
Country where the Project Activity is located	Türkiye
GPS coordinates of the project site(s)	See table below
Eligible GCC Project Type as per the Project Standard (Tick applicable project type)	☒ **Type A:** ☐ Type A1 ☒ Type A2 ☒ Sub-Type 1 ☐ Sub-Type 2 ☐ Sub-Type 3

Project	Latitude	Longitude
Yaveriye 9 Yaveriye 10 Yaveriye 11 Yaveriye 12 Yaveriye 13	37.0950 N 37º 05' 42"	36.1683 E 36º 10' 6"
Çevretepe 1 Çevretepe 2 Çevretepe 3	36.8922 N 36º 53' 32"	35.7981 E 35º 47' 53"

	☐ Sub-Type 4 ☐ Type A3 ☐ **Type B – De-registered CDM Projects:**[1] ☐ Type B1 ☐ Type B2
Minimum compliance requirements	☒ Real and Measurable GHG Reductions ☒ National Sustainable Development Criteria (if any) ☒ Apply credible baseline and monitoring methodologies ☒ Additionality ☒ Local Stakeholder Consultation Process ☒ Global Stakeholder Consultation Process ☒ No GHG Double Counting ☒ Contributes to United Nations Sustainable Development Goal 13 (Climate Action)
Choose optional and additional requirements (Tick applicable label categories)	☒ Do-no-net-harm Safeguards to address Environmental Impacts ☒ Do-no-net-harm Safeguards to address Social Impacts ☒ Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)
Applied methodologies including version No. (Shall be approved by the GCC or the CDM)	AMS-I.D.: Grid connected renewable electricity generation, version 18.0
GHG Sectoral scope(s) linked to the applied methodology(ies)	GHG-SS #1: Energy Industry (Renewable and non-renewable)

[1] Owners of Type B projects shall fill in the form provided in Appendix 7.

Applicable Rules and Requirements for Project Owners

(Tick applicable Rules and Requirements)

Rules and Requirements		Version
☒ ISO 14064-2		
☒ Applicable host country legal requirements /rules		
☒ GCC Rules and Requirements[2]	☒ Project Standard	V3.1
	☐ Approved GCC Methodology (XXXXX)	
	☒ Program Definitions	V3.1.
	☒ Environment and Social Safeguards Standard	V3.0
	☒ Project Sustainability Standard	V3.0
	☒ Instructions in Project Submission Form (PSF)-template	V4.0
	☒ Clarification No. 01	V1.2
	☐ Clarification No. 02	
	☐ Clarification No. 03	
	☐ Clarification No. 04	
	☐ Clarification No. 05	
	☒ Standard on avoidance of double counting	V1.0
	☐ Add rows if required	
☒ CDM Rules[3]	☒ Approved CDM Methodology (AMS-I.D.: Grid connected renewable electricity generation)	V18.0
	☐ TOOL 1- Tool for the demonstration and assessment of additionality	
	☐ TOOL 02- Combined tool to identify the baseline scenario and demonstrate additionality	

[2] GCC Program rules and requirements: http://www.globalcarboncouncil.com/resource-centre/
[3] CDM Program rules: https://cdm.unfccc.int/Reference/index.html

		☒ TOOL 07- Tool to calculate the emission factor for an electricity system	V07.0
		☐ TOOL 19- Demonstration of additionality of microscale project activities	
		☒ TOOL 20- Assessment of debundling for small-scale project activities	V04.0
		☒ TOOL 21- Demonstration of additionality of small-scale project activities	V13.1
		☐ TOOL 23- Additionality of first-of-its-kind project activities	
		☐ TOOL 24- Common practice	
		☒ TOOL 27- Investment analysis	V11.0
		☐ TOOL 32- Positive lists of technologies	
		☐ Guidelines for objective demonstration and assessment of barriers	
		☐ Add rows if required	
Choose Third Party Project Verification by approved GCC Verifiers[4] (Tick applicable verification categories)	☒ GHG emission reductions (i.e., Approved Carbon Credits **(ACCs)**) ☒ Environmental No-net-harm Label (**E+**) ☒ Social No-net-harm Label (**S+**) ☒ United Nations Sustainable Development Goals (**SDG+**) ☐ Bronze SDG Label ☐ Silver SDG Label ☒ Gold SDG Label		

[4] **Note:** GCC Verifiers under the Individual Track are not eligible to conduct verifications for GCC Project Activities whose owners intend to supply carbon credits (ACCs) for use within CORSIA.

	☐ Platinum SDG Label ☐ Diamond SDG Label ☒ CORSIA requirements (**C$^+$**) ☐ Host Country Attestation on Double counting
Declaration by the 'Authorized Project Owner[5] and focal point' (Tick all applicable statements[6])	The Project Owner(s) declares that: **Generic Requirements applicable to all Project Types:** ☒ We confirm that the Project Activity complies with the eligibility of the applicable project type (A1, A2, A3, B1 or B2) as stipulated by the Project Standard and relevant clarifications. ☒ We confirm that the Project Activity shall start or have started operations, and shall start or have started generating emission reductions, on or after 1 January 2016. ☒ We confirm that the Project Activity is eligible to be registered under the GCC program. We shall ensure the following for the Project Activity (tick at least one of the two options): ☒ No outcomes (e.g., emission reductions, environmental attributes) generated by the Project Activity under GCC will be claimed as carbon credits or environmental attributes under any other GHG/non-GHG[7] program, either for compliance or voluntary purposes, during the entire GCC crediting period; or ☒ If the project activity has been issued with carbon credits or environmental attributes of compensating nature[8] by any other GHG/ non-GHG program, either for compliance or voluntary purposes, the ACCs will be claimed only for the remaining crediting period (subject to a maximum of 10 years of crediting period including the periods under other programs and GCC program) for which carbon credits/ environmental attributes of compensating nature have not been issued by any other GHG/ non-GHG program. **Specific requirements applicable to respective Project Types:**

[5] The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

[6] **Consequences in case of Non-compliance with declaration statements:**
If at any point in time non-compliance with the declared statements is established as a result of negligence, fraud or wilful misconduct of the GCC Project Owner/s the GCC project activity will be disqualified, and the registration of the proposed Project Activity will be rejected.

[7] Non-GHG programs could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

8 The environmental attributes of compensating nature are those which are used by captive users (e.g., corporates/industries) for offsetting their GHG emissions

	For Project Type A1: ☐ For Project Type A1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 1):*** ☒ For Project Type A2 Sub-Type 1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program. ***For Project Type A2 (Sub-Type 2 or Sub-Type 3):*** For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options): ☐ Submit a proof for deregistration from CDM; or ☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program. ☐ For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that the Project Activity is NOT included as a component Project Activity (CPA) in any registered GHG Programme of Activities (PoA) or any other functionally equivalent grouped/aggregated activities under any GHG program (such as the CDM or any other voluntary program). ***For Project Type A2 (Sub-Type 4):*** For Project Type A2 Sub-Type 4, we confirm that the Project Activity has been included in a registered CDM-POA and we shall (tick at least one of the two options): ☐ Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or ☐ Submit the proof of exclusion of CPA(s) from the registered CDM-PoA after the request for registration has been submitted to GCC Program but before the final decision is made by the GCC Steering Committee. ***For Project Type A3:*** ☐ For Project Type A3, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.

For Project Type B1 or B2:

For Project Type B1 or Project Type B2, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options):

☐ Submit a proof for deregistration from CDM; or

☐ Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.

Requirements to avoid double counting:

We intend to submit or have submitted a written attestation[9] (Host Country Letter of Authorization - HCLOA) from the host country's national focal point or focal point designee for CORSIA eligible units generated beyond 31 December 2020 at the following stages[10] (tick at least one of the three options):

☐ The initial submission for GSC; or

☐ Along with the submission for a request for registration (after Project Verification is completed); or

☒ Along with the submission for a request for the first or subsequent issuance of ACCs.

Project specific requirements:

CORSIA specific requirements:

☒ We confirm that bundled projects or grouped projects shall have registered crediting period starting on or after 1 Jan 2016 for the grouped/aggregated project as a whole.

☒ We confirm that the Project Activity meets all the requirement of the CORSIA Eligible Emissions Units[11] required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes.

☒ We confirm that the Project Activity aims to achieve at least Silver or higher SDG+ label (i.e., positively impact at least 3 or more United Nations Sustainability Development Goals).

9 In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

10 If the host country attestation is not submitted at the initial submission of GSC, the project can be tagged with an indicative CORSIA flag if it's confirmed to be submitted later. If the host country attestation is not submitted at the request for registration, the project can be tagged with an indicative CORSIA flag if at least the PSF and Verification Report confirms to submit this letter, at first issuance. If the host country attestation is not submitted at request for first issuance, the ACCs will not be tagged as CORSIA (C+) compliant if this letter is not submitted.

11 CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx

	☒ We confirm that the Project Activity will be implemented in a country which is UN member state[12]. Provide details (if any) below for the boxes ticked above:
	The Project Owner(s) declares that: ☒ All the information provided in this document, including any supporting documents submitted to the GCC or its registry operator IHS Markit at any time, is true and correct. ☒ They understand that a failure by them to provide accurate information or data, or concealing facts and information, can be considered as negligence, fraud or willful misconduct. Therefore, they are aware that they are fully responsible for any liability that arises as a result of such actions. Provide details below for the boxes ticked above
Appendixes 1-9	Details about the Project Activity are provided in Appendixes 1 through 9 to this document.
Name, designation, date and signature of the Focal point (as per LON/LOA)	**On behalf of** **Astronergy Solar Turkey Enerji A.Ş.** **GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Tic. A.Ş.** **M. Kemal Demirkol** **Director of GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Tic. A.Ş.** **23/11/2022** 

[12] The list of UN member states countries can be found at https://www.un.org/en/about-us/member-states

1. PROJECT SUBMISSION FORM

Section A. Description of the Project Activity

A.1. Purpose and general description of the Project Activity

"Astronergy Solar Turkey 3" is operated by Astronergy Solar Turkey Enerji A.Ş.. The project is reducing national energy deficit and development of local industries as it allows the use of local sources for energy generation to meet the increasing demands.

The purpose of the project is to generate clean energy by harnessing the solar power and providing the energy to the Turkish national grid. By implementing the project, investors also aim to reduce dependency to the fossil fuels thereby reducing the sources of environmental pollution.

In this scope, project owners installed total number of 31,908 PV panels with the purpose of contributing to the national economy the meeting the increased electricity demand. Project is located in Osmaniye Province, Merkez District, Sakızgediği Neighborhood, Adana Province and Ceyhan District, Çevretepe Neighborhood in Türkiye. Solar power plants are unlicenced.

Total output of the plant will be limited at 7.63 MWe. The average estimated annual generation is 11,772 MWh. Since the projects are not licenced, this value does not represent the maximum generation, instead it represents the average. Hence, this value may be exceeded if the plants generate more electricity than the models indicate. Hence, estimated carbon emissions can be more than stated as well.

The project activity will generate greenhouse gas (GHG) emission reductions by avoiding CO_2 emissions from electricity generation by fossil fuel power plants connected to Turkish National Power Grid. The average estimated annual generation is 11,772[13] MWh, which will be able to deliver a reduction in emissions of around 7,637 tCO2e (tons of carbon dioxide equivalent) per annum and 76,370 tCO2e in the first crediting period.

Main goals of the Astronergy Solar Turkey 3 include;

• Utilization of the solar potential of Türkiye in order to meet increasing electricity demand and maintain energy security. In total, the solar energy capacity of Türkiye is lower than 7% of the total installed capacity.[14]

• Reduction of GHG emissions through increasing share of renewable resources.

• Contribution to economic development by creating direct and indirect job opportunities during construction and operation phases.

• Reduction of import dependency on fossil fuel weighed electricity sector and diversify generation mix through use of local resources.

• Contribution to sustainable development through supporting local community and local economy.

[13] Solar simulations using vintage data. Since the projects are not licenced, this value does not represent the maximum generation.

[14] https://webapi.teias.gov.tr/file/39abb292-4b3e-4e70-9e08-914d0ba9bd43?download

In terms of local benefits, the project mainly contributes to the reduction of local air pollutants and local employment.

Table 1. Milestones of the Project

	Milestone			
	Provisional Acceptance (commissioning)	**EIA Approval**	**Connection Agreement**	**System Use Agreement**
Yaveriye 9	02/02/2018	29/04/2015	20/02/2018	02/03/2018
Yaveriye 10				
Yaveriye 11				
Yaveriye 12				
Yaveriye 13				
Çevretepe 2	23/11/2017	21/07/2015	06/12/2017	27/07/2016
Çevretepe 1				
Çevretepe 3				

In terms of local benefits, the project mainly contributes to the reduction of local air pollutants and local employment.

The project is expected to contribute 4 SDGs which are SDG 7, 8, 9 and 13.

SDG 7 Energy: The project contributes SDG Target 7.2 “By 2030, increase substantially the share of renewable energy in the global energy mix” by the utilization of solar as a renewable energy source.

SDG 8 Economic Growth: The project creates direct and indirect employment opportunities during construction and operation phases, so it contributes to SDG Target 8.5 “By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value”.

SDG 9 Infrastructure, Industrialization: SDG Target 9.4 requires “By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities”. The project helps the Target 9.4 by implementing a clean, reliable and environmental-friendly infrastructure for clean energy production / up-to-date industrialization.

SDG 13 Climate Change: The project produces clean renewable energy by diminishing CO_2 emissions. Therefore, it contributes SDG Target 13.3 “Improve education, awareness-raising and

human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning".

The project boundary is considered as the National Electricity Grid of Türkiye 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.

According to the methodology baseline scenario has been 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".

A.2. Location of the Project Activity

Address and geodetic coordinates of the physical site of the Project Activity			
Physical address		**Latitude**	**Longitude**
Yaveriye 9 Yaveriye 10 Yaveriye 11 Yaveriye 12 Yaveriye 13	Osmaniye Province / Merkez District / Sakızgediği Neighborhood	37.0950 N 37° 05' 42"	36.1683 E 36° 10' 6"
Çevretepe 2 Çevretepe 1 Çevretepe 3	Adana Province / Ceyhan District / Çevretepe Neighborhood	36.8922 N 36° 53' 32"	35.7981 E 35° 47' 53"

Figure 1. Project location

Figure 2. Project locations on satellite map (Adana Province)

Figure 3. Project locations on satellite map (Osmaniye Province)

A.3. Technologies/measures

Technical information on each plant are given in the tables below. Lifetime of the equipment are considered 25 years.

Table 1. Technical information on the solar panels

	Brand	Model	Max. module power	Number of modules	Capacity (kWe)	Capacity (kWp)	Estimated Generation (MWh/year)	Production Year
Yaveriye 9	Astronergy	CHSM6610P	265	4008	950	1,062.12	1552	2017
Yaveriye 10	Astronergy	CHSM6610P	265	4008	950	1,062.12	1527	2017
Yaveriye 11	Astronergy	CHSM6610P	265	4008	950	1,062.12	1446	2017
Yaveriye 12	Astronergy	CHSM6610P	265	4008	950	1,062.12	1542	2017
Yaveriye 13	Astronergy	CHSM6610P	265	4008	950	1,062.12	1550	2017
Çevretepe 1	Astronergy	CHSM6610P	265	3956	960	1,048.34	1385.349	2017
Çevretepe 2	Astronergy	CHSM6610P	265	3956	960	1,048.34	1383.915	2017
Çevretepe 3	Astronergy	CHSM6610P	265	3956	960	1,048.34	1385.613	2017
			TOTAL	**31,908**	7,630	8,455.62	11,772	

Table 2. Technical information on the inverters

	Brand	Model	Number	Production Year
Yaveriye 9	KACO	Blueplanet 50.0 TL3 / 50 kW	19	2017
Yaveriye 10	KACO	Blueplanet 50.0 TL3 / 50 kW	19	2017
Yaveriye 11	KACO	Blueplanet 50.0 TL3 / 50 kW	19	2017
Yaveriye 12	KACO	Blueplanet 50.0 TL3 / 50 kW	19	2017
Yaveriye 13	KACO	Blueplanet 50.0 TL3 / 50 kW	19	2017
Çevretepe 1	Sungrow	SG60KTL – 60 kW	16	2017
Çevretepe 2	Sungrow	SG60KTL – 60 kW	16	2017
Çevretepe 3	Sungrow	SG60KTL – 60 kW	16	2017

Table 3. Technical information on the meters

	Main Meter				Spare Meter			
	Brand	**Type**	**Class**	**Serial Nr.**	**Brand**	**Type**	**Class**	**Serial Nr.**
Yaveriye 9	Landis	Gyr E550	0.5S	37942251	Köhler	AEL.TF.21	0.5S	21005029
Yaveriye 10	Landis	Gyr E550	0.5S	37942232	Köhler	AEL.TF.21	0.5S	21004545
Yaveriye 11	Landis	Gyr E550	0.5S	37942230	Köhler	AEL.TF.21	0.5S	21004823
Yaveriye 12	Landis	Gyr E550	0.5S	37942231	Köhler	AEL.TF.21	0.5S	21004928
Yaveriye 13	Landis	Gyr E550	0.5S	37942233	Köhler	AEL.TF.21	0.5S	21004972
Çevretepe 2	Landis	Gyr E550	0.5S	37052847	Landis	Gyr E550	0.5S	37052847
Çevretepe 1	Landis	Gyr E550	0.5S	37052843	Landis	Gyr E550	0.5S	37052851
Çevretepe 3	Landis	Gyr E550	0.5S	37052845	Landis	Gyr E550	0.5S	37052842

According to the methodology baseline scenario has been 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”.

A.4. Project Owner(s)

Location/ Country	Project Owner(s)	Where applicable[15], indicate if the host country has provided approval (Yes/No)
Türkiye	Astronergy Solar Turkey Enerji A.Ş.	N/A
Türkiye	GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Ticaret A.Ş.	N/A

A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity

The Project Activity is expected to generate ACCs for a full 10-year crediting period and supply the credits to offset the following GHG emissions:

Period		Name of the Entities	Purpose and Quantity of ACCs to be supplied
From	To		
23/11/2017	22/10/2027	CORSIA	76,370 tCO_2

Carbon credits (ACCs) from the Project Activity would not be double counted. The project activity is not a part of any other compliance/voluntary carbon mechanism as GCC is the only program to which project has applied.

A.6. Additional requirements for CORSIA

Please see Section E and F.

Condition	Demonstration
(a) Comply with the Environment and Social Safeguards Standard to ensure that the Project Activity does not cause any net harm to the environment or society and provides an opportunity to demonstrate this achievement by obtaining the additional certification labels E+ and S+. Please refer to Section E of this document.	The project complies with Environment and Social Safeguards Standard to ensure that the Project Activity does not cause any net harm to the environment or society. These achievements are demonstrated by certification labels E+ and S+ and these are demonstrated in Section E.
(b) Comply with the Project Sustainability Standard to ensure that the Project Activity demonstrates	The project complies with Project Sustainability Standard to ensure that the Project Activity

[15] For example, *Project Coordination Form* is to be filled-in by Project Owners for projects located in Qatar. A written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA (Refer section A.5 of the PSF guidelines).

the level of contribution towards achieving the United Nations Sustainability Development Goals (SDGs) and provides an opportunity to demonstrate this achievement by obtaining the additional SDG+ label (Bronze, Silver, Gold, Platinum, or Diamond). Please refer to Section F of this document.	demonstrates the level of contribution towards achieving the United Nations Sustainability Development Goals (SDGs). These achievements are demonstrated by SDG+ label, which is Gold for this project.
(c) Obtain and provide to the GCC and its Registry (operated by IHS Markit), a written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA Emissions Unit Eligibility Criteria (paragraph 7 (c) of the Carbon Offset Credit Integrity Assessment Criteria) and Programme Application Form – Appendix A – Supplementary Information Form (refer to section 3.7.8. with respect to the Host Country Attestation on Double Counting), which shall be made publicly available prior to the use of units from the host country under CORSIA	As per para 14 of GCC project standard the submission of Host Country Attestation (HCA) on double counting is required by CORSIA labelled project after 31/12/2020 as verified under section D.13 of this report. For carbon credits issued during 01/01/2016 to 31/12/2020 the Host Country Attestation is not required. Thus, for this project activity Host country clearance is not required at the time of project verification. Hence the verification team confirms that no Host Country Attestation (HCA) is required by the CORSIA labelled project activity and the Host Country Attestation (HCA) will be required during the first or subsequent verification, when the issuance of carbon credit is considered beyond 1st Jan 2021. HCLOA letter will be submitted by PfO to GCC at the time of issuance of project activity in line with para 16 of "Standard on Avoidance of Double Counting" v1.0 dated 09/03/2022.

Section B. Application of selected methodology(ies)

B.1. Reference to methodology(ies) and tools applied in the project

The United Nations approved consolidated baseline methodology applicable to this project is AMS-I.D.: Grid connected renewable electricity generation, version 18.0[16]

AMS-I.D refers to the following tools:

- Tool 07 : "Tool to calculate the emission factor for an electricity system", version 7[17], and
- Tool 21 : "Demonstration of additionality of smallscale project activities", version 13.1[18]

[16] https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK
[17] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf
[18] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-21-v13.1.pdf

B.2. Applicability of methodology(ies) and tools applied in the project

The selected methodology is in line with the requirements and is therefore justified to be used because of the following reasons:

Project meets the applicability criteria defined by the selected methodology, which is AMS-I.D, ver 18.0:

No.	Applicability Conditions	The Project
1	This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	The project activity is a Greenfield, grid connected renewable electricity generation project.
2	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m2 ; (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m2	The project activity is the installation of solar power plant. Hence this condition is N/A.
3	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The Project is a solar plant with renewable components only, with a capacity of less than 15 MWe.
4	Combined heat and power (co-generation) systems are not eligible under this category	The project does not involve combined heat and power generation activity.
5	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	The Project is a solar plant with renewable components only, with a capacity of less than 15 MWe. The project does not involve capacity addition.
6	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The project does not involve capacity addition, a retrofit of (an) existing plant(s) or a replacement of (an) existing plant(s).
7	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure	The project is the installation of solar power plant. Hence, this condition is N/A.

	prescribed nder this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as “AMS-I.C.: Thermal energy production with or without electricity” shall be explored.	
8	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	The project is the installation of solar power plant. Hence, this condition is N/A.

- The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available.

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 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 Türkiye, the project boundary is considered as the National Electricity Grid of Türkiye 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.

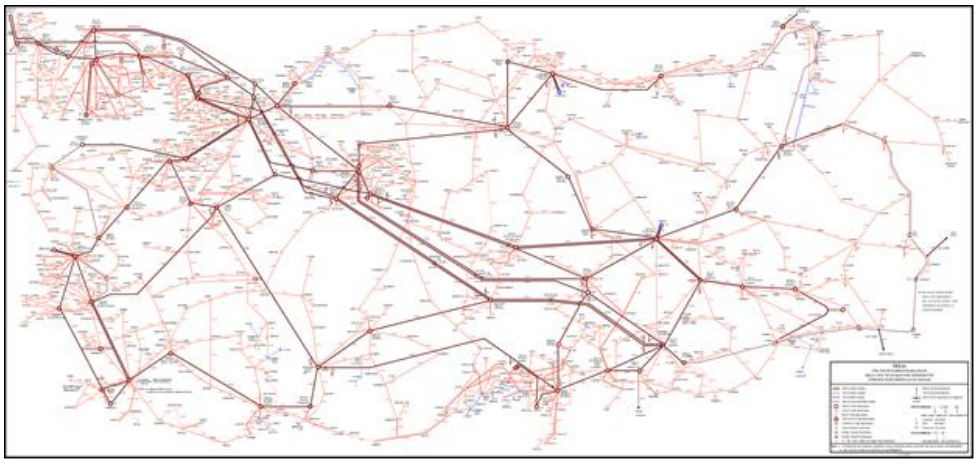

Figure 4. Turkish electricity grid

As per AMS-I.D methodology Section 2.2.9, the applicability conditions included in the tools used shall also be discussed.[19]

- Tool 07 "Tool to calculate the emission factor for an electricity system", Version 7[20]: This tool is applicable and used for the calculation of OM, CM and CM since the project activity includes grid power plants and supplies electricity to the grid.

Applicability as per "Tool 07 : Tool to calculate the emission factor for an electricity system, version 07.0"

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.
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.

Applicability as per "Tool 21 : Demonstration of additionality of smallscale project activities, version 13.1"

No.	Applicability Conditions	The Project
1	The use of the methodological tool "Demonstration of additionality of small-scale project activities" is not mandatory for project participants when proposing new methodologies. Project participants and coordinating/managing entities may propose alternative methods to	No new methodologies are proposed.

[19] https://cdm.unfccc.int/filestorage/2/P/7/2P7FS6ZQAR84LG3NMKYUH50WI9ODBC/EB81_repan24_AMS-I.D_ver18.pdf?t=UHp8cjNzZHhlfDD9s5G5hUiUHORGy-hX3U_z

[20] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

	demonstrate additionality for consideration by the Executive Board.	

Applicability as per “Tool 20 : Assessment of debundling for small-scale project activities”, version 04.0

No.	Applicability Conditions	The Project
1	This methodological tool is applicable to proposed small-scale project activities and small-scale CPAs in order to check whether they are debundled components of largescale project activities.	The project is small-scale project activity, therefore, this tool is applicable.

Applicability as per “Tool 27 : Investment Analysis, version 11.0”

No.	Applicability Conditions	The Project
1	This methodological tool is applicable to project activities that apply the methodological tool “Tool for the demonstration and assessment of additionality”, the methodological tool “Combined tool to identify the baseline scenario and demonstrate additionality”, the guidelines “Non-binding best practice examples to demonstrate additionality for SSC project activities”, or baseline and monitoring methodologies that use the investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.	This project activity applies the methodological tool “Tool for the demonstration and assessment of additionality”. Hence, this condition is met.
2	In case the applied approved baseline and monitoring methodology contains requirements for the investment analysis that are different from those described in this methodological tool, the requirements contained in the methodology shall prevail.	Investmentractice analysis is provided in section B.5.

Two-level analysis for formulation of homogeneous bundles

The project also meets Clarification No. 01 criteria as per GCC Rules & Requirements. A single bundled project is developed by organizing several homogeneous bundles of activities put together. Two-level analysis is needed for determination of homogeneous bundles for a bundled project.

No.	Condition	The Project
1	Level-1 analysis – Consideration of key aspects for developing Homogeneous Bundles: A homogeneous bundle shall be formed based on the analysis of multiple activities to find out similarity in technological, economic and environmental/methodological considerations. These are explained as follows. (i) Similarity in Technological Considerations: All activities in a bundle shall apply same type of technology as allowed by the applicable methodology or combination of methodologies3, if allowed, addressing ‘cross-effects’ (e.g., a single project developed to include only solar PV technology and applying ACM0002 and AMS- I.D). (ii) … (iii) …	The project is a bundle of projects which apply the same type of technology. The project is a single project developed to include only solar PV technology and applying AMS- I.D. Hence, the project complies with the clarifications.
2	Level-2 analysis – Criteria for differentiating the bundles: Formulate a separate bundle of activities if any of the following criteria is not complied with. (a) Same baseline of each activity within a bundle; (b) Same output of each activity (e.g., heat or power or cogeneration);	Level-2 analysis is not required since the project meets criteria (c).

	(c) Same Technology of each activity (e.g., wind or solar);	

B.3. Project boundary, sources and greenhouse gases (GHGs)

The project boundary is considered as the National Electricity Grid of Türkiye 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.

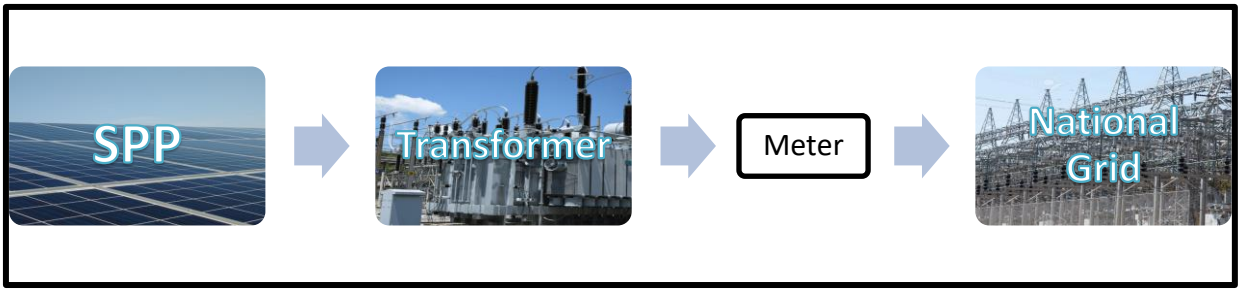

Figure 5. Project boundary

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.

The table below provides an overview of the emissions sources included or excluded from the project boundary for determination of baseline and project emissions.

Source		GHG	Included?	Justification/Explanation
Baseline	Electricity generation	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source. Excluded for simplification
		N_2O	No	Minor emission source. Excluded for simplification
Project Activity	For geothermal power plants, fugitive emissions of CH_4 and CO_2 from non-condensable gases contained in geothermal steam.	CO_2	No	Not Applicable. Project is not a geothermal power plant.
		CH_4	No	Not Applicable. Project is not a geothermal power plant.
		N_2O	No	Not Applicable. Project is not a geothermal power plant.
	CO_2 emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants.	CO_2	No	Not Applicable. Project is a solar power plant.
		CH_4	No	Not Applicable. Project is a solar power plant.
		N_2O	No	Not Applicable. Project is a solar power plant.
	For hydro power plants, emissions of CH_4 from the reservoir.	CO_2	No	Not Applicable. Project is not a hydro power plant.
		CH_4	No	Not Applicable. Project is not a hydro power plant.
		N_2O	No	Not Applicable. Project is not a hydro power plant.

B.4. Establishment and description of the baseline scenario

This project follows an approved small-scale UNFCCC methodology which is AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0 . Selected methodology has been applied together with the "tool to calculate the emission factor for an electricity system, version 7".

According to the methodology baseline scenario has been 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".

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 are still very low. Since Türkiye is an advanced developing country, there is an increasing demand for electricity which is fully expected to continue in the foreseeable future (Figure below).

The trend in Türkiye 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. Türkiye 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 Türkiye, 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.

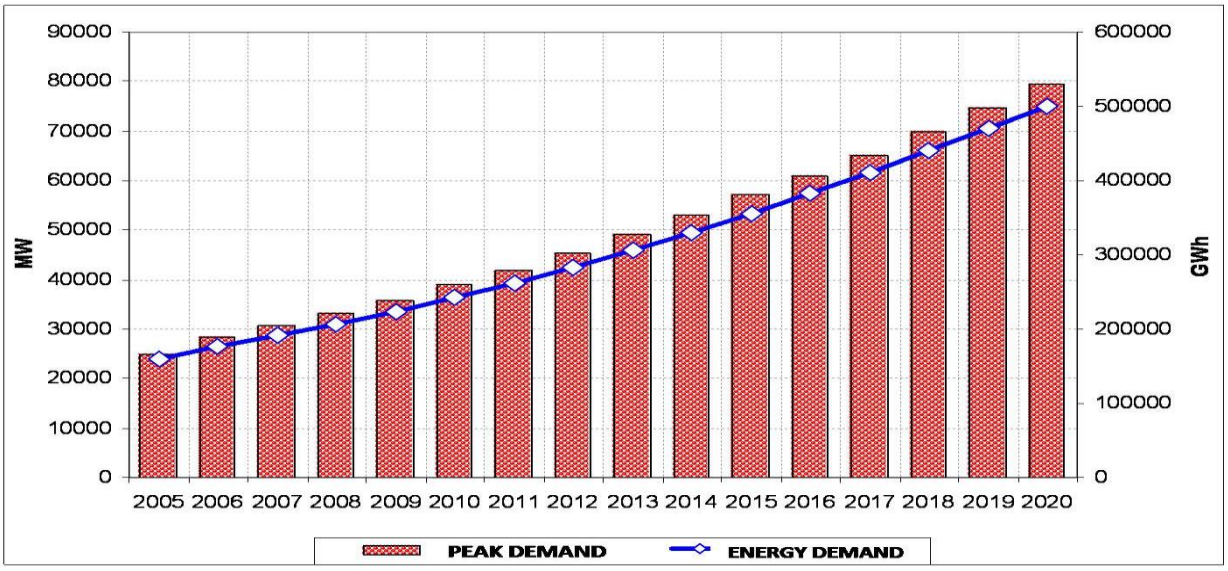

Figure 6. Peak Load and consumption projection for Turkish electricity system between 2005-2020[21]

The project is estimated to reduce CO_2 emissions by 7,637 tonnes, annually.

B.5. Demonstration of additionality

The GCC applies the following approach for demonstrating additionality, consisting of two components:
(i) A Legal Requirement Test; and
(ii) An Additionality Test either based on a Positive List test or a projects-specific additionality test.

(i) The project is not required by a law that is enforced. The project passes the legal requirement test since there are no enforced laws, statutes, regulations, court orders, environmental-mitigation agreements, permitting conditions or other legally-binding mandates that are requiring this project's implementation, or requiring the implementation of a similar technology/measure that would achieve equivalent levels of GHG emission reductions with this project. Voluntary commitments/agreements within a sector or by an entity do not constitute the legal requirements. Hence, the project is additional as per paragraph 46 of Project Standard.

(ii) According to the CDM tool "Positive lists of Technologies", version 04.0, section 5.2.3, solar photovoltaic technologies are not included in the positive list that confer automatic additionality to CDM project activities. So, projects-specific additionality test is conducted.

21http://www.teias.gov.tr/apkuretimplani/veriler.htm

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(ii) According to the CDM tool "Positive lists of Technologies", version 04.0, section 5.2.3, solar photovoltaic technologies are not included in the positive list that confer automatic additionality to CDM project activities. So, projects-specific additionality test is conducted.

Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:
(a) **Investment barrier**: a financially more viable alternative to the project activity would have led to higher emissions;
(b) **Technological barrier**: a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;
(c) **Barrier due to prevailing practice**: prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;
(d) **Other barriers**: without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

Investment analysis for Astronergy Solar Turkey 3 has been conducted considering the methodology applied.

Investment analysis
The investment analysis has been done in order to make an economic and financial evaluation of the project. No public funding or ODA are available in Turkey for finance of this type of projects.

***Sub-step 2a* - Determine appropriate analysis method**
There are three options for the determination of analysis method which are:

- Simple Cost Analysis
- Investment Comparison Analysis and
- Benchmark Analysis

Since project generates economic benefits from sales of electricity, the simple cost analysis is not applicable. Also, since the baseline of the project is generation of electricity by the grid, no alternative investment is considered at issue. So, it has been decided to use benchmark analysis for evaluation of the project investment.

Sub-step 2b: Option III. Apply benchmark analysis

For benchmark analysis, figure defined by World Bank for similar project types have been used which has been given as 15% (pre-tax) for equity IRR in the "Implementation Completion and Results Report" (Report No: ICR00004069, page 40)[22]. Expected returns on equity for such type of projects is 15% which is also in line with world bank report is selected as benchmark for project activity (Report No: ICR00004069, page 40). Hence this benchmark is appropriate for this project. For the proposed project, in order to reach this equity IRR values, average electricity tariff must be above 16.9 $c/kWh in the absence of carbon revenue and assuming that initial investment figures are realized so that the investment will become reasonable.

Sub-step 2c. Calculation and comparison of financial indicators

Table 4. Main financial parameters used for investment analysis

Parameters	Unit	Data Value
Installed Capacity[23]	MWe	7.63
Grid Connected output[24]	MWh	11,772
Capital Investment	Million $	~9,641[25]
Feed in Tariiff/Market price after 10 years	$ Cents/kWh	13.3[26]/4.57
Expected VERs price[27]	$/tCO$_2$e	3

The installed capacity of the solar power plant it 7.63 MW. The lowest estimated value is used for calculations, to demonstrate even with the lowest estimated cost, the project still is in need of carbon revenue.

Internal Rate of Return (IRR) of the proposed project has been calculated as 13.86% based on the parameters given above without considering the carbon revenue. Project does not use any ODA or government incentive. Electricity tariff has been used as $13.3[28] Cent/kWh for first 10 years and 4.57 $ Cent/kWh after 10 years. Annual generation has been taken as 11,772 MWh as indicated in the licence.

Acceptable IRR values for energy investments in Turkey are, given the present economic uncertainty, are expected at yields in excess of 15% per annum.

[22] http://documents.worldbank.org/curated/en/799701498842988254/pdf/ICR00004069-06192017.pdf
[23] Provisional acceptances of the solar power plants
[24] Feasibility studies done by the PP
[25] Records provided by PP, cross-checked with invoices also provided by PP
[26] https://www.resmigazete.gov.tr/eskiler/2011/01/20110108-3-1.pdf
[27] State of Voluntary Carbon Markets Report 2017 (as the average voluntary offset price of 2017
[28] https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5346.pdf

Sub-step 2d - Sensitivity Analysis

Sensitivity analysis had been carried out for three main parameters identified for the first phase of the project. However, since the investment cost for extension is based on signed agreements and operating cost is not changed after extension, which is a conservative approach, only impact of change in tariff has been considered in sensitivity analysis.

- Investment Cost
- Operating Cost
- Electricity Sales Revenue

Table 5. Sensitivity analysis Astronergy Solar Turkey (without carbon revenue)

%Fluctuation	-15	-10	-5	0	5	10	15
Investment Cost	12.57	11.38	10.30	9.32%	8.41	7.57	6.79
Operating Cost	9.33	9.32	9.32	9.32%	9.31	9.31	9.31
Electricity Income	7.12	7.85	8.58	9.32%	10.05	10.79	11.52

Outcome of Step 2:

The investment and sensitivity analysis shows that the VER revenues will improve the financial indicators of the Project remarkably. Considering that figures above are based on a higher price rather than the government guaranteed floor price, optimistic estimations for yearly generation and that those figures do not reflect the risk for investment, role of carbon income is a most significant number to enable the project to proceed.

According to local regulations, electricity price is determined daily according to Market Financial Settlement Centre (MFSC) as defined in the regulations and there exists three tariffs during day, peak and night hours. Thermal power plants and HEPPs with storage facilities have flexibility to schedule their generation at peak hours when the tariff is high. However, solar power plants do not have storage facility therefore may not be able to benefit from high prices realized at when demand is high. According to MFSC figures, electricity tariff fluctuated between 4.5 $c/kWh and 4.9 $c/kWh between 2015 and 2017. The value does not provide any guarantee about the actual selling price as the control on generation period and tariff is limited and it may not be possible to generate and sell electricity during peak tariff periods. Also, considering that fluctuation in wind flow exist and fact that a part of the electricity can be sold through bilateral agreements to free consumers with a discount rate over market price, guarantee price has been taken as reference in investment analysis which also provides input for evaluation of financing institutions.

Another important parameter affecting equity IRR is investment cost. Although a decrease in investment cost by %15 causes higher IRR as 12.57, it does not affect the real case since the agreements have been made and costs are realized as given in financial model. There is no chance to expect a decrease in the investment cost thereafter. Operating costs can also affect the equity IRR however, its impact is not significant and does not cause any significant change in equity IRR and the fluctuation percentage to reach the benchmark is very high and not likely. Based on the above information, it is seen that project is not the most attractive option. Therefore, project

is considered as additional to the baseline scenario.

The project activity is not a debundled component of a larger project activity as explained below. As per para 9 of TOOL 20 Assessment of debundling for small-scale project activities,

A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:

(a) With the same project participants;
(b) In the same project category and technology/measure; and
(c) Registered within the previous 2 years; and
(d) Whose project boundary is within 1 km of the project boundary of the proposed small- scale activity at the closest point.

The plants and their respective project owners are provided below.

Table 6. Project owners (legal owners) of the each solar power plant in the bundle

Project	Project Owner
Yaveriye 9	VATAN GÜNEŞİ 8 ENERJİ ÜRETİM SAN. VE TİC. LTD. ŞTİ
Yaveriye 10	VATAN GÜNEŞİ 9 ENERJİ ÜRETİM SAN. VE TİC. LTD. ŞTİ
Yaveriye 11	VATAN GÜNEŞİ 10 ENERJİ ÜRETİM SAN. VE TİC. LTD. ŞTİ
Yaveriye 12	VATAN GÜNEŞİ 11 ENERJİ ÜRETİM SAN. VE TİC. LTD. ŞTİ
Yaveriye 13	VATAN GÜNEŞİ 12 ENERJİ ÜRETİM SAN. VE TİC. LTD. ŞTİ
Çevretepe 1	SILANUR ELEKTRİK ÜRETİM SAN. VE TİC. LTD. ŞTİ.
Çevretepe 2	NURGÖZDE ELEKTRİK ÜRETİM SAN. VE TİC. LTD. ŞTİ.
Çevretepe 3	KARS ELEKTRİK ÜRETİM SAN. VE TİC. LTD. ŞTİ.

There are no other registered small-scale CDM project activity or an application to register another small-scale CDM project activity by any of the project owners given in Table 6. Therefore, as provided in para 9 of Tool 20, (b), (c) and (d) are inapplicable since (a) is negative.
In conclusion, the project activity is not a debundled component of a larger project activity.

	Determining the occurrence of debundling	
10	If a proposed small-scale project activity is deemed to be a debundled component in accordance with paragraph 2 above, but total size of such an activity combined with the previous registered small-scale CDM project activity does not exceed the limits for smallscale CDM project activities as set in paragraph 6 (c) of the decision 17/CP.7,1 the project activity can qualify to use simplified modalities and procedures for small-scale CDM project activities.	No proposed small-scale project activity is a debundled component, therefore, small-scale CDM project activity limits are not exceeded in any way.
	Type I project activities	
11	In cases where a DOE has, in assessing the possibility that a small scale project is a debundled component of a large scale project activity, determined that two or more	

	project activities are taking place within one kilometer of each other and with the same project participants: (a) The DOE shall ensure that these projects are described in the PDD and that the validation report contains specific details on how it has been determined that the project activities are not a debundled component of a large scale project activity; (b) The DOE shall consider the project activities to be a debundled component of a large scale project activity even in cases where they are taking place in different project categories, if the project activities are Type 1 project activities providing energy to the same user and are registered, or submitted for registration, with 2 years of each other.	
	Transport project activities	
12	A proposed small-scale transport sector project activity involving boundaries/sources that are mobile, shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: (a) With the same project participants; and (b) In the same project category and technology/measure; and (c) Registered within the previous 2 years.	The project is not in the transport sector. Therefore, para 12 and 13 are not applicable to the projects in the bundle and the bundle itself.
13	The above provision excludes the condition to check that the project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point and is also applicable to the guidance for determining the occurrence of debundling under a programme of activities (PoA).	
	Determining the occurrence of debundling for multiple CDM projects involving independent subsystem/measures	
14	If each of the independent subsystems/measures (e.g., biogas digesters, residential solar energy systems, kerosene or incandescent lighting replacements) included in one or more CDM project activities is no greater than 1% of the small scale thresholds defined by the applied methodology and the subsystems/measures are indicated in the PDDs to be each implemented at or in multiple locations (e.g., installed at or in multiple homes) then these CDM project activities are exempted from performing a de-bundling check, i.e., considered as being not a de-bundled component of a large scale activity.	The project does not involve independent subsystem/measures. Therefore, para 14 are not applicable to the projects in the bundle and the bundle itself.
	Determining the occurrence of debundling under a programme of activities (PoA)	
15	For the purposes of registration of a Programme of Activities (PoA), a proposed smallscale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity, which satisfies both conditions (a) and (b) below:	There are no PoAs that have the same activity implementer as the proposed small scale CPA or have a

	(a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and; (a) (b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.	coordinating or managing entity, which also manages a large scale PoA of the same technology/measure and the boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.
16	If a proposed small-scale CPA of a PoA is deemed to be a debundled component in accordance with paragraph 2 above, but the total size of such a CPA combined with a registered small-scale CPA of a PoA or a registered CDM project activity does not exceed the limits for small-scale CDM and small-scale A/R project activities as set out in Annex II of the decision 4/CMP.14 and 5/CMP.1 respectively, the CPA of a PoA can qualify to use simplified modalities and procedures for small-scale CDM and small-scale A/R CDM project activities.	The proposed small-scale CPA of a PoA is not deemed to be a debundled component.
17	If each of the independent subsystems/measures (e.g., biogas digester, solar home system) included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology applied, then that CPA of PoA is exempted from performing de-bundling check i.e., considering as not being a de-bundled component of a large scale activity.	The proposed project is not a de-bundled component of a large scale activity.

Further explanation for para 9 clause (d) of TOOL 20 Assessment of debundling for small-scale project activities.

Adana Province

There are no solar power plants whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point. However, these power plants. There are no power plants which are connected at the same meter with these plants. In fact, each one of these plants are connected to separate electricity meters.
Osmaniye Province

There are some solar power plants whose project boundary is within 1 km of the project boundary of the proposed small-scale activity at the closest point. However, these power plants are not owned by any of the project owners given in Table 6. Therefore, there are no other registered small-scale CDM project activity or an application to register another small-scale CDM project activity by any of the project owners given in Table 6. There are no power plants which are connected at the same meter with these plants. In fact, each one of these plants are connected to separate electricity meters.

B.6. Estimation of emission reductions

B.6.1. Explanation of methodological choices

Emission factor will remain same over the crediting period.

Emission Reduction

Ex-ante emission reductions (ER_y) are calculated as follows (Equation 9 of AMS-I.D. v18.0):

$ER_y = BE_y – PE_y – LE_y$

Where:

ER_y = Emission reductions in year y (tCO_2)

BE_y = Baseline emissions in year y (tCO_2)

PE_y = Project Emissions in year y (tCO_2)

LE_y = Leakage emissions in year y (tCO_2)

Baseline Emissions

Baseline emission is calculated according to the formula:

$BE_y = EG_{PJ,y} \times EF_{grid,y}$

Where:

$EG_{PJ,y}$ = 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 (MWh)

$EF_{grid,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO2/MWh)

Emission factor calculated according to selected methodology and according to the Ministry of Energy and Natural Resources document named as Türkiye’s National Electricity Network Emission Factor Factsheet (20/09/2022), OM is calculated as 0.7424 tCO_2/MWh whereas BM is 0.3680 tCO2/MWh)[35] Therefore, CM is calculated as 0.6488 whereas 0.75 and 0.25 weightage factor given to OM and BM, respectively.

Considering this project is a solar power plant project, combined margin is calculated as per Tool 07 : “Tool to calculate the emission factor for an electricity system”, Equation (16), v07.0, as follows:

$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$

Wind and solar power generation project activities: w_{OM} = 0.75 and w_{BM} = 0.25 for the first crediting period and for subsequent crediting periods.[36] Hence:

$EF_{grid,CM,y} = EF_{grid,OM,y} \times 0.75 + EF_{grid,BM,y} \times 0.25$

As given by the Ministry of Energy and Natural Resources, built margin is 0.7424 and operating margin is 0.3680.

$EF_{grid,CM,y} = 0.7424 \times 0.75 + 0.3680 \times 0.25 = 0.6488$ tCO_2/MWh

Project Emissions

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

[36] Para. 86(a) : https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

Since the project is classified as a renewable energy project, parameter $PE_{FF,y}$ is neglected. Therefore,
$PE_{FF,y} = 0$

Leakage Emissions

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".
$LE_y = 0$

Total Emission Reduction

As a result, Total Emission Reduction is:
$ER_y = BE_y$

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

Data / Parameter Table 1.

Data / Parameter:	**$EF_{grid,y}$**
Methodology reference	AMS-I.D.: Grid connected renewable electricity generation, v18.0
Data unit	tCO_2/MWh
Description	Combined margin CO2 emission factor for the project electricity system in year
Measured/calculated/default	Calculated. AMS-I.D.: Grid connected renewable electricity generation, v18.0, Section 5.5 Para 22
Data source	Tool 07 Tool to calculate the emission factor for an electricity system Ministry of Energy and Natural Resources, OM & BM values[37]
Value(s) of monitored parameter	0.6488 tCO_2/MWh
Measurement/ Monitoring equipment (if applicable)	The coefficients are taken as 0.25 and 0.75 for BM and OM, respectively according to the methodology.
Calculation method (if applicable)	Once in each crediting period
QA/QC procedures	CM = (BM x 0.25) + (OM x 0.75)

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

	As given by the Ministry of Energy and Natural Resources, built margin is 0.3680 and operating margin is 0.7424. (0.3680 x 0.25) + (0.7424 x 0.75) = 0.6488 tCO_2/MWh
Purpose of data	-
Additional comments	SDG 7 Energy / 7.2 “By 2030, increase substantially the share of renewable energy in the global energy mix by the utilization of biomass as a renewable energy source. To calculate baseline emission
	AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0

B.6.3. Ex-ante calculation of emission reductions

Emission Reduction

Ex-ante emission reductions (ER_y) are calculated as follows (Equation 9 of AMS-I.D. v18.0):
ERy = BEy – PEy – LEy
Where:
ERy = Emission reductions in year y (tCO_2)
BEy = Baseline emissions in year y (tCO_2)
PEy = Project Emissions in year y (tCO_2)
LEy = Leakage emissions in year y (tCO_2)

Baseline Emissions

Baseline emission is calculated according to the formula:
$BE_y = EG_{PJ,y} \times EF_{grid,y}$
Where:
$EG_{PJ,y}$ = 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 (MWh)
$EF_{grid,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO2/MWh)
Emission factor calculated according to selected methodology and according to the Ministry of Energy and Natural Resources document named as Türkiye’s National Electricity Network Emission Factor Factsheet (20/09/2022), OM is calculated as 0.7424 tCO_2/MWh whereas BM is 0.3680 tCO2/MWh)[38] Therefore, CM is calculated as 0.6488 whereas 0.75 and 0.25 weightage factor given to OM and BM, respectively.
Considering this project is a solar power plant project, combined margin is calculated as follows:
CM = (OM x 0.75) + (BM x 0.25)
As given by the Ministry of Energy and Natural Resources, built margin is 0.7424 and operating

38

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

margin is 0.3680.
(0.7424 x 0.75) + (0.3680 x 0.25) = 0.6488 tCO_2/MWh

BEy = 11,772 MWh × 0.6488 tCO_2e/MWh = 7,637 tCO_2e

Project Emissions

According to the applied methodology AMS-I.D. Ver 18.0 for most renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected." Since the project is classified as a renewable energy project, parameter $PE_{FF,y}$ is neglected[39].
Therefore,
$PE_y = 0$

Leakage Emissions

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".
$LE_y = 0$

Total Emission Reduction

As a result, Total Emission Reduction is:
ERy = BEy
So, final emission reduction value is 7,637 **tCO_2**/year, and 76,370 **tCO_2** for the whole crediting period of 10 years.

B.6.4. Summary of ex ante estimates of emission reductions

Year	Baseline emissions (t CO_2e)	Project emissions (t CO_2e)	Leakage (t CO_2e)	Emission reductions (t CO_2e)
2017 (23/10/2017 - 31/12/2017)	816	0	0	816
2018	7,637	0	0	7,637
2019	7,637	0	0	7,637
2020	7,637	0	0	7,637
2021	7,637	0	0	7,637
2022	7,637	0	0	7,637

[39] AMS I.D ver 18.0 page 12, section 5.6, paragraph 39.

2023	7,637	0	0	7,637
2024	7,637	0	0	7,637
2025	7,637	0	0	7,637
2026	7,637	0	0	7,637
2027 (01/01/2027-22/10/2027)	6,821	0	0	6,821
Total	76,370	0	0	76,370
Total number of crediting years	10 years fixed			
Annual average over the crediting period	7,637	0	0	7,637

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored *ex-post*

Data / Parameter Table 2.

Data / Parameter:	$EG_{PJ,facility,y}$
Methodology reference	AMS-I.D.: Grid connected renewable electricity generation, v18.0
Data unit	MWh
Description	Net Electricity generated and delivered to the grid by the power plant in year y
Measured/calculated/default	Measured
Data source	Electricity meter readings on-site
Value(s) of monitored parameter applied with basis	Estimated annual generation forming the basis for emission reduction calculation is 11,772 MWh.
Measurement/ Monitoring equipment	Type of meter: See Section B.7.4 Location of meter: Accuracy of meter: 0.5S Serial number of meter:

	Main	Spare
Yaveriye 9	37942251	21005029
Yaveriye 10	37942232	21004545
Yaveriye 11	37942230	21004823
Yaveriye 12	37942231	21004928
Yaveriye 13	37942233	21004972
Çevretepe 2	37052847	37052847
Çevretepe 1	37052843	37052851
Çevretepe 3	37052845	37052842

	<table><tr><td>Calibration frequency</td><td>10 years</td></tr><tr><td>Date of Calibration/ validity</td><td>See Section B.7.4.</td></tr><tr><td>Reference No. of Calibration Certificate</td><td>See Section B.7.4.</td></tr><tr><td>Calibration Status</td><td>Calibrated</td></tr></table> See Section B.7.4. for detailed properties of the meters.
Frequency of Measuring/reading	Continuous
Recording frequency	Monthly
Calculation method (if applicable)	$EG_{PJ,facility,y}$ calculation is done using approved and signed electricity invoices between the PP and the corresponding local distribution companies. Generation is recorded via remote reading system by the corresponding local distribution companies but are not recorded on site. The values can be cross-checked with the equipment monitoring interfaces, however, the invoices will be the main source for the electricity generation calculations. Generation data is recorded by two metering devices continuously. These records provide the data for the monthly invoicing to the distribution companies. The net quantity of electricity supplied by the project plant to the grid is calculated by subtracting “the quantity of electricity delivered to the project plant from the grid” from “the quantity of electricity supplied by the project plant to the grid”. In other words, net generation is calculated via subtracting energy delivered to the project activity from the grid for internal consumption from gross electricity fed to the grid.
QA/QC procedures	Calibration of the meters are valid for 10 years based on related regulation[40]. Maintenance and calibration of the metering devices are made by the corresponding local distribution companies. If there is a significant difference between the readings of two devices, maintenance and tests of the metering devices and the associated equipment are done before waiting for the periodical maintenance. The meters should comply with EPDK regulations which define the accuracy class of the meters as 0.2S or 0.5S depending on the capacity of the circuit as given in document in link (https://www.epdk.gov.tr/Detay/Icerik/3-0-0-128/tebligler).

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

Purpose of data	To calculate the baseline emission value To assess the contribution SDG 7 Energy / 7.2 “By 2030, increase substantially the share of renewable energy in the global energy mix by the utilization of biomass as a renewable energy source. / 7.2.1 Renewable energy share in the total final energy consumption To assess the contribution SDG 9 Infrastructure, Industrialization / 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Additional comments	-

Data / Parameter Table 3.

Data / Parameter:	**Solid Waste Pollution from E-wastes, from end-of-life products/ equipment and from Hazardous wastes**
Methodology reference	GCC Environment-and-Social-Safeguards-Standard-v3
Data unit	-
Description	No solid waste pollution caused due to e-wastes and batteries from the project activity
Measured/calculated/default	Measured
Data source	Records of any incidents of panel damage
Value(s) of monitored parameter applied with basis	No solid waste pollution due to e-wastes and batteries in the baseline
Measurement/ Monitoring equipment	-
Frequency of Measuring/reading	At each verification
Recording frequency	At each verification
Calculation method (if applicable)	Any e-waste and battery wastes will be handled according to the national regulations: Regulation on Waste Management[41], Regulation on Electrical and Electronic Waste Control[42], and Regulation on Battery and Accumulator Wastes[43].
QA/QC procedures	The panels are under warranty. In any case of problems, the panels are returned to the manufacturer and further handling of the wastes are done by the private firms.
Purpose of data	To comply with GCC Environment-and-Social-Safeguards-Standard-v3

[41] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[42] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=16159&MevzuatTur=7&MevzuatTertip=5
[43] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=7118&MevzuatTur=7&MevzuatTertip=5

Additional comments	-

For Parameters to be monitored for E+/S+ assessments and SDG labels (positive impacts)

Data / Parameter:	**CO2 emissions (EA03)**
Purpose:	To demonstrate positive impacts of aspects wrt baseline scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	SDG 13 Climate Action / 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions development & SDG 9 Infrastructure, Industrialization / 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. Indicator 9.4.1 CO2 emission per unit of value added
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate "harmless" condition or demonstrate Impact on SDG	<table><tr><td colspan="2"></td></tr><tr><td>Parameter to be monitored</td><td>CO2 emissions</td></tr><tr><td>Frequency of monitoring</td><td>Continuous electricity generation monitoring, monthly recording</td></tr><tr><td>Legal /regulatory / corporate limits (if any)</td><td>None</td></tr><tr><td>QA/QC</td><td>Continuous measuring for electricity generation will be done by using electricity meters. Therefore, emission reduction calculations will be done according to the generation values</td></tr></table>
Remarks	The net electricity supplied by the Project will be continuously measured and recorded by the corresponding local distribution companies; and will be kept by the Project Owner Ex-ante emission reductions (ERy) are calculated as given in Section B.6.4. and as follows (Equation 9 of AMS-I.D. v18.0): ERy = BEy – PEy – LEy

Data / Parameter:	**Long-term jobs created (SJ01)**
Purpose:	To demonstrate positive impacts of aspects wrt baseline scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.

<table>
<tr><td>Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.</td><td>SDG 8 Economic Growth - SDG Target 8.5 “By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value”.</td></tr>
<tr><td>Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG</td><td><table>
<tr><td colspan="2"></td></tr>
<tr><td>Parameter to be monitored</td><td>Long-term jobs created</td></tr>
<tr><td>Frequency of monitoring</td><td>At each verification</td></tr>
<tr><td>Legal /regulatory / corporate limits (if any)</td><td>None</td></tr>
<tr><td>QA/QC</td><td>Employment records will be checked</td></tr>
</table></td></tr>
<tr><td>Remarks</td><td>Project creates employment opportunity. The companies in the bundle creates total around 19 job opportunities.</td></tr>
</table>

B.7.2. Data and parameters to be monitored for E+/S+ assessments (negative impacts)

There are no parameters considered “harmful” in section E.

B.7.3. Sampling plan

N/A

B.7.4. Other elements of the 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 the corresponding local distribution companies for billing purposes. Therefore, no new additional protocol is needed for monitoring emission reduction.

Generation data collected during crediting period is submitted to GTE who is responsible for calculating the emission reduction subject to verification: Generation data is used to prepare monitoring reports which are used to determine the vintage from the project activity.

Verification Team Members is expected to include the following staff :

Plant Manager: Responsibility for running the plant and compliance with monitoring plan
Accounting Manager: Responsible for keeping data about generation and consumption.
and
GTE Karbon Sürdürülebilir Enerji Eğitim Danişmanlik Ve Tic. A.Ş.: Responsible for emission

reduction calculations, preparing monitoring report and periodical verification process.
TOROSLAR ELEKTRİK DAĞITIM A.Ş. : Local distribution company. Physical connection and management of electricity meters are under TOROSLAR ELEKTRİK DAĞITIM A.Ş.'s responsibility. (Adana & Osmaniye)
TEİAŞ : Turkish Electricity Transmission Corporation
EPİAŞ : Managing and operating energy markets

Installation of meter and data monitoring are carried out according to the national regulations and regulations by TEIAS. Two metering devices (one of them used as spare) are used for monitoring the electricity generated by the power plant. Readings are done using main metering devices and spare metering device is used for comparison only. Data from metering devices is recorded by local distribution companies monthly (through remote reading).

Two calibrated meters backup each other. Maintenance and calibration of the metering devices are made by the corresponding local distribution companies. If there is a significant difference between the readings of two devices, maintenance and tests of the metering devices and the associated equipment are done before waiting for the periodical maintenance. The meters should comply with EPDK regulations which define the accuracy class of the meters as 0.2S or 0.5S depending on the capacity of the circuit as given in document in link (http://www.epdk.gov.tr/web/elektrik-piyasasi-dairesi/44).

All data is kept for at least two years after the crediting period or 2 years after the last issuance for for the project activity whichever occurs later for QA/QC purposes.

Calibration of the metering devices is made by the corresponding local distribution companies and sealed before the commissioning of the power plant. The meters are calibrated by the corresponding local distribution companies when there is an inconsistency between two devices. Calibrations are done according to the Measuring Instruments Directive.[44]

Table 7. Technical information on electricity meters

	Main Meter				Spare Meter			
	Brand	**Type**	**Class**	**Serial Nr.**	**Brand**	**Type**	**Class**	**Serial Nr.**
Yaveriye 9	Landis	Gyr E550	0.5S	37942251	Köhler	AEL.TF.21	0.5S	21005029
Yaveriye 10	Landis	Gyr E550	0.5S	37942232	Köhler	AEL.TF.21	0.5S	21004545
Yaveriye 11	Landis	Gyr E550	0.5S	37942230	Köhler	AEL.TF.21	0.5S	21004823
Yaveriye 12	Landis	Gyr E550	0.5S	37942231	Köhler	AEL.TF.21	0.5S	21004928
Yaveriye 13	Landis	Gyr E550	0.5S	37942233	Köhler	AEL.TF.21	0.5S	21004972
Çevretepe 2	Landis	Gyr E550	0.5S	37052847	Landis	Gyr E550	0.5S	37052847
Çevretepe 1	Landis	Gyr E550	0.5S	37052843	Landis	Gyr E550	0.5S	37052851
Çevretepe 3	Landis	Gyr E550	0.5S	37052845	Landis	Gyr E550	0.5S	37052842

[44] https://www.mevzuat.gov.tr/anasayfa/MevzuatFihristDetayIframe?MevzuatTur=7&MevzuatNo=6381&MevzuatTertip=5

Section C. Start date, crediting period type and duration

C.1. Start date of the Project Activity

Start date of project activity is 23/11/2017, after the first provisional acceptance.

C.2. Expected operational lifetime of the Project Activity

Expected operational lifetime of the project activity is considered as 25 years, according to the technical sheets of the solar panels.

C.3. Crediting period of the Project Activity

Crediting period is between 23/11/2017 and 22/11/2027, fixed as 10 years. The crediting period is fixed as 10 years.

C.3.1. Start and end date of the crediting period

Start date of the crediting period is 23/11/2017 and the end date is 22/11/2027.

C.3.2. Duration of crediting period

Crediting period is between 23/11/2017 and 22/11/2027, fixed as 10 years.

Section D. Environmental impacts

D.1. Analysis of environmental impacts

Please see section E.

Air

Since it is a solar energy power plant, the project is expected to have a positive impact on climate change by eliminating fossil fuels. Hence, the project prevents CO_2 emissions. No other emissions are expected due to project activity.

Land

All the wastes generated on the project sites are handled, stored and disposed according to the national law and regulations. If any e-wastes, batteries, end-of-life wastes, damaged solar panel wastes are handled according to the Regulation on Electrical and Electronic Waste Control[45] and

[45] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=16159&MevzuatTur=7&MevzuatTertip=5

Regulation on Battery and Accumulator Wastes[46]. If any waste oil is generated on site, it is handled according to the Regulation on Waste Oils[47]. Domestic solid wastes generated on the project sites are handled according to the national law and regulations such as Regulation on Waste Management[48]. No soil pollution is expected due to project activity. Hazardous wastes are not expected to be generated on-site. In case of any generation, it would be in very minimal quantity or not at all. The land is not prone to erosion.

Water

The project does not consume water or change reliability or accessibility of water supply. No significant wastewater is generated on-site, if generated, it is handled according to the national regulations. The project does not cause any pollution to surface waters, groundwater and any other water bodies. Water is not consumed in cleaning of the panels, since panels are not located at a place that would cause dust pollution on them.

Natural Resources

The project does not have any expected effects on the natural or pre-existing pattern of water courses, groundwater or the watershed. No other natural resources are expected to be affected by the project activity. The project sites are located on arid, infertile, uncultivated lands, hence, any plants or forests will not be affected by the project activity. The project site does not include any pasture lands, all mechanical equipment are protected by fences, hence, if any animal is present near the project area, they will not be affected since they can not enter the plant site through the fences.

D.2. Environmental impact assessment and management action plans

The plants in the bundle received their their environmental impact assessment out of scope approval, the dates are mentioned in Table 1 of this document. So, an official environmental impact assessment not being carried out, this section is not applicable.

The projects in the bundle are solar power plant projects under 1 MW each, hence, they are “out of scope” of environmental impact assessment and are not included in the list of EIA assessment required plants[49]. In the Regulation on Environmental Impact Assessment (No: 39647), Annex-1 “list of projects that environmental impact assessment will be applied” [50], solar projects under 1 MW are not included. Hence, solar projects under 1 MW does not require EIA. Official environmental impact assessments were not carried out, this section is not applicable.

[46] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=7118&MevzuatTur=7&MevzuatTertip=5
[47] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=34051&MevzuatTur=7&MevzuatTertip=5
[48] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[49] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39647&MevzuatTur=7&MevzuatTertip=5
[50] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39647&MevzuatTur=7&MevzuatTertip=5

Section E. Environmental and social safeguards

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E.1. Environmental safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards								Project Owner's Conclusion		GCC Project Verifier's Conclusion (To be included in Project Verification Report only)
		Description of Impact *(positive or negative)*	**Legal/ voluntary corporate requirement / regulatory/ voluntary corporate threshold Limits**	**Do-No-Harm Risk Assessment (choose which ever is applicable)**			**Risk Mitigation Action Plans for aspects marked as Harmful**		**Performance indicator for monitoring of impact**	***Ex-ante* scoring of environmental impact**	***Explanation of the Conclusion***	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational Controls**	**Program of Risk Management Actions**	**Monitoring parameter and frequency of monitoring**	**Ex- Ante scoring of the environmental impact (as per scoring matrix Appendix-02)**	**Ex- Ante description and justification/explanation of the scoring of the environmental impact**	**Verification Process**
Environmental Aspects on the identified categories [51] ***indicated below.***	*Indicators for environmental impacts*	*Describe and identify anticipated and actual significant environmental impacts, both positive and negative from all sources (stationary and mobile) during normal and abnormal/emergency conditions, that may result from the construction and operations of the Project Activity, within and outside the project boundary, over which the Project Owner(s) has/have control.*	*Describe the applicable national regulatory requirements /legal limits / voluntary corporate limits related to the identified risks of environmental impacts.*	*If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable***	*If environmental impacts exist but are expected to be in compliance with applicable national regulatory /stricter voluntary corporate requirements and will be within legal/ voluntary corporate limits by way of plant design and*	*If negative environmental impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm*	*Describe the operational controls and best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as '****Harmful*** *at least to a level that is in compliance with applicable legal/regulatory requirements or industry best practice or stricter voluntary corporate requirements*	*Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., installation of pollution control equipment) that will be adopted to reduce or eliminate the risk of impacts that have been identified as* ***Harmful****.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well including the data source.*	*-1* *0* *+1*	*Confirm the score of environmental impact of the project with respect to the aspect and its monitored value in relation to legal /regulatory limits (if any) including basis of conclusion.*	*Describe how the GCC Verifier has assessed that the impact of the Project Activity against the particular aspect and in case of "harmful impacts" how has the project adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm as well as the net positive impacts of the project with respect to the most likely baseline alternative.* .

[51] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

					operating principles, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as ***Harmless*** */If the project has a positive impact on the environment mark it as "harmless" as well.*	*(may be un-safe) and shall be indicated as* ***Harmful***						
Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 13 (e) (ii)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 22*		*Paragraph 24 and Paragraph 26 (a) (i)*
Environment - *Air*	*SO_x emissions (EA01)*	-	-	-	-	-	-	-	-	-		
	NO_x emissions (EA02)	-	-	-	-	-	-	-	-	-		
	CO_2 emissions (EA03)	The project reduces CO_2 emissions since it reduces the amount of fossil fuel used. In case of "no project", stated amount of electricity would be generated from fossil fuels and cause air pollution.	None	-	Harmless The overall impact is positive with respect to the baseline alternative.	-	-	-	GHG emission reduction (tonnes of CO_2e/year) , the parameter will be monitored continuously, and recorded on a monthly basis.	+1	Electricity generated by the power plant will be used to calculate emission reductions achieved by the project.	
	CO emissions (EA04)	-	-	-	-	-	-	-	-	-		

	Suspended particulate matter (SPM) emissions (EA05)	-	-	-	-	-	-	-	-	-		
	Fly ash generation (EA06)	-	-	-	-	-	-	-	-	-		
	Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)	-	-	-	-	-	-	-	-	-		
	Odor (EA08)	-	-	-	-	-	-	-	-	-		
	Noise Pollution (EA09)	-	-	-	-	-	-	-	-	-		
	Others (EA10)	-	-	-	-	-	-	-	-	-		
	Add more rows if required and corresponding notation with EA as prefix)											
Environment - *Land*	*Solid waste Pollution from Plastics (EL-01)*	-	-	-	-	-	-	-	-	-		

	Solid waste Pollution from Hazardous wastes (EL02)	Hazardous wastes are not expected to be generated on-site.	-	-	-	-	-	-	-	-		
	Solid waste Pollution from Bio-medical wastes (EL03)	-	-	-	-	-	-	-	-	-		
	Solid waste Pollution from E-wastes (EL04)	No e-waste pollution is expected from the project activity. If any e-waste is generated, they will be handled according to national regulations.	Regulation on Waste Management[52], Regulation on Electrical and Electronic Waste Control[53], and Regulation on Battery and Accumulator Wastes[54].	-	Harmless	-	-	-	If such waste is generated, disposal records will be present. In any case of problems, the panels are returned to the manufacturer and further handling of the wastes are done by the manufacturer. Private firms also may handle the wastes according to national laws and regulations.	+1		
	Solid waste Pollution from Batteries (EL05)	Batteries are not used in the project.	-	-	-	-	-	-	-	-		
	Solid waste Pollution from end-of-life	If any end-of-life products or equipment that is generated on site will be handled according to national regulations..	Regulation on Waste Managem	-	Harmless	-	-	-	If such waste is generated, disposal records will be present. In any case of problems,	+1		

[52] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[53] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=16159&MevzuatTur=7&MevzuatTertip=5
[54] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=7118&MevzuatTur=7&MevzuatTertip=5

	products/ equipment (EL06)		ent[55], Regulation on Electrical and Electronic Waste Control[56], and Regulation on Battery and Accumulator Wastes[57].						the panels are returned to the manufacturer and further handling of the wastes are done by the manufacturer. Private firms also may handle the wastes according to national laws and regulations.			
	Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury) (EL07)	-	-	-	-	-	-	-	-	-	-	
	land use change (change from cropland /forest land to project land) (EL08)	Project area is not prone to erosion.	-	-	-	-	-	-	-	-	-	
	Others (EL09)	-	-	-	-	-	-	-	-	-	-	
	Add more rows if required	-	-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	-	-	-	-	

[55] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=20644&MevzuatTur=7&MevzuatTertip=5
[56] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=16159&MevzuatTur=7&MevzuatTertip=5
[57] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=7118&MevzuatTur=7&MevzuatTertip=5

Environment - *Water*	*Reliability/ accessibility of water supply (EW01)*	-	-	-	-	-	-	-	-	-		
	Water Consumption from ground and other sources (EW02)	The project does not use ground water during operation. Groundwater was not used during construction phase as well. In case of water requirement, water supply tanks can be used.	-	-	-	-	-	-	-	-		
	Generation of wastewater (EW03)	No wastewater is generated on the project sites during operation	-	-	-	-	-	-	-	-		
	Wastewater discharge without/with insufficient treatment (EW04)	No wastewater is generated on the project sites, therefore, wastewater is not discharged without insufficient treatment.	-	-	-	-	-	-	-	-		
	Pollution of Surface, Ground and/or Bodies of water (EW05)	-	-	-	-	-	-	-	-	-		
	Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)	-	-	-	-	-	-	-	-	-		
	Others (EW07)	-	-	-	-	-	-	-	-	-		
	Add more rows if required	-	-	-	-	-	-	-	-	-		

		-	-	-	-	-	-	-	-	-		
Environment – *Natural Resources*	*Conserving mineral resources (ENR01)*	-	-	-	-	-	-	-	-	-		
	Protecting/ enhancing plant life (ENR02)	-	-	-	-	-	-	-	-	-		
	Protecting/ enhancing species diversity (ENR03)	-	-	-	-	-	-	-	-	-		
	Protecting/ enhancing forests (ENR04)	-	-	-	-	-	-	-	-	-		
	Protecting/ enhancing other depletable natural resources (ENR05)	-	-	-	-	-	-	-	-	-		
	Conserving energy (ENR06)	-	-	-	-	-	-	-	-	-		
	Replacing fossil fuels with renewable sources of energy (ENR07)	-	-	-	-	-	-	-	-	-		
	Replacing ODS with non-ODS refrigerants (ENR08)	-	-	-	-	-	-	-	-	-		
	Others (ENR09)	-	-	-	-	-	-	-	-	-		

	Add more rows if required											
Net Score:			**+3**									
Project Owner's Conclusion in PSF:				The Project Owner confirms that the Project Activity will not cause any net harm to Environment.								
GCC Project Verifier's Opinion:				The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to the environment...								

E.2. Social Safeguards

The PO prioritizes inclusion and participation of both men and women, therefore there will not be social inequality. PO will never be complicit in violence or human rights abuses or child/forced labor. If any complaint is received by the PO, they will act on the issue right away throughout the lifetime of project activity. 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[58] and equal opportunities for men and women[59]. Türkiye has ratified ILO convention 100, 111, 122 and 142, which provides gender equality. It also shows parallelity with national strategies prepared for women employment by creating opportunities for all. Emergency response procures and trainings given related to it are provided to the provided to workers/employees. Accident/incident records will be present and the project will never threaten livelihood or cause any disruption to communal harmony. All the workers are socially secured by the PO and protected by employment agreements.

Impact of Project Activity on	**Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards**	**Project Owner's Conclusion**	**GCC project Verifier's Conclusion**

[58] Employment Law (22/07/2003) (no. 4857) https://www.mevzuat.gov.tr/mevzuatmetin/1.5.4857.pdf
[59] Commission Of Equal Opportunities For Men And Women (25/02/2009) (no. 5840) https://www.mevzuat.gov.tr/MevzuatMetin/1.5.5840.pdf

											(To be included in Project Verification Report only)
		Description of Impact (*positive or negative*)	**Legal requirement /Limit, Corporate policies / Industry best practice**	**Do-No-Harm Risk Assessment** (Choose which ever is applicable)			**Risk Mitigation Action Plans (for aspects marked as Harmful)**	**Performance indicator for monitoring of impact.**	**Ex-ante scoring of environmental impact**	**Explanation of the Conclusion**	**3rd Party Audit**
				Not Applicable	**Harmless**	**Harmful**	**Operational / Management Controls**	**Monitoring parameter and frequency of monitoring (as per scoring matrix Appendix-02)**	**Ex- Ante scoring of social impact of the project**	**Ex- Ante description and justification/explanation of the scoring of social impact of the project**	**Verification Process** **Will the Project Activity cause any harm?**
Social Aspects on the identified categories[60] indicated below.	*Indicators for social impacts*	*Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all sources during normal and abnormal/emergency conditions that may result from constructing and operating of the Project Activity within or outside the project boundary, over which the project Owner(s) has/have control*	*Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts*	*If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable***	*If social impacts exist but are expected to be in compliance with applicable national regulatory requirements/ stricter voluntary corporate limits by way of plant design and operating principles then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Harmless****), project having positive impact on society. To the BAU / baseline scenario must also mark their aspect as* ***"harmless"***	*If negative social impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm and shall be indicated as* ***Harmful***	*Describe the operational or management controls that can be implemented as well as best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as* ***Harmful****.*	*Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well. Monitoring parameters can be quantitative or qualitative in nature along with the data source*	*-1* *0* *+1*	*Confirm the score of the social impacts of the project with respect to the aspect and its monitored value in relation to legal/regulatory limits (if any) including basis of conclusion*	*Describe how the GCC Verifier has assessed that the impact of Project Activity on social aspects (based on monitored parameters, quantitative or qualitative) and in case of "harmful aspects how has the project owner adopted Risk Mitigation Action / management actions plans and policies to mitigate the risks of negative social impacts to levels that are unlikely to cause any harm.* *Also describe the positive impacts of the project on the society as compared to the baseline alternative or BAU scenario.*

[60] sourced from the CDM SD Tool and the sample reports are available (https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx)

Reference to paragraphs of Environmental and Social Safeguards Standard		*Paragraph 12 (a)*	*Paragraph 13 (c)*	*Paragraph 13 (d) (i)*	*Paragraph 13 (d) (ii)*	*Paragraph 13 (d) (iii)*	*Paragraph 13 (e) (i)*	*Paragraph 12 (c) and Paragraph 13 (f)*	*Paragraph 23*		*Paragraph 24 and Paragraph 26 (a) (ii)*
Social - *Jobs*	*Long-term jobs (> 10 year) created/ lost (SJ01)*	The project creates long term job opportunities. All employments are done according to the national employment regulations.	-	-	Harmless As the impact is positive in nature	-	-		+1	Employees working under the main company ASTRONERGY SOLAR TURKEY ENERJİ A.Ş. works for the projects in the bundle. They are employed also to work in the other bundles of the main company as shifting.	
	New short-term jobs (< 1 year) created/ lost (SJ02)	-	-	-	-	-	-	-			
	Sources of income generation increased / reduced (SJ03)	-	-	-	-	-	-	-			
	Avoiding discrimination when hiring	-	-	-	-	-	-	-			

	people from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04) *(Human rights)*										
Social - *Health & Safety*	*Disease prevention (SHS01)*	-	-	-	-	-	-	-			
	Occupational health hazards (SHS02)	-	-	-	-	-	-	-			
	Reducing / increasing accidents /Incidents/fatality (SHS03)	-	-	-	-	-	-	-			
	Reducing / increasing crime (SHS04)	-	-	-	-	-	-	-			
	Reducing / increasing food wastage (SHS05)	-	-	-	-	-	-	-			
	Reducing / increasing indoor	-	-	-	-	-	-	-			

	air pollution (SHS06)										
	Efficiency of health services (SHS07)	-	-	-	-	-	-	-			
	Sanitation and waste management (SHS08)	-	-	-	-	-	-	-			
	Other health and safety issues (SHS09)	-	-	-	-	-	-	-			
	Add more rows if required	-	-	-	-	-	-	-			
Social - *Education*	*specialized training / education to local personnel (SE01)*	-	-	-	-	-	-	-			
	Educational services improved or not (SE02)	-	-	-	-	-	-	-			
	Project-related knowledge dissemination effective or not (SE03)	-	-	-	-	-	-	-			

	Other educational issues (SE03)	-	-	-	-	-	-	-			
	Add more rows if required (SE04)	-	-	-	-	-	-	-			
Social - *Welfare*	*Improving/ deteriorating working conditions (SW01)*	-	-	-	-	-	-	-			
	Community and rural welfare (indigenous people and communities) (SW02)	-	-	-	-	-	-	-			
	Poverty alleviation (more people above poverty level) (SW03)	-	-	-	-	-	-	-			
	Improving / deteriorating wealth distribution/ generation of income and	-	-	-	-	-	-	-			

	assets (SW04)										
	Increased or / deteriorating municipal revenues (SW05)	-	-	-	-	-	-	-			
	Women's empowerment (SW06) *(Human rights)*	-	-	-	-	-	-	-			
	Reduced / increased traffic congestion (SW07)	-	-	-	-	-	-	-			
	Exploitation of Child labour *(Human rights)* *(SW08)*	-	-	-	-	-	-	-			
	Minimum wage protection *(Human rights) (SW09)*	-	-	-	-	-	-	-			
	Abuse at workplace. (With specific reference to	-	-	-	-	-	-	-			

	women and people with special disabilities / challenges) *(Human rights) (SW10)*										
	Other social welfare issues (SW11)	-	-	-	-	-	-	-			
	Avoidance of human trafficking and forced labour *(Human rights)* *(SW12)*	-	-	-	-	-	-	-			
	Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs *(Human rights)* *(CW13)*	-	-	-	-	-	-	-			
	Provisions of resettlem	-	-	-	-	-	-	-			

	ent and human settlement displacement *(Human rights)* *(CW14)*										
	Add more rows if required										
Net Score:	+1										
Project Owner's Conclusion in PSF:	The Project Owner confirms that the Project Activity will not cause any net harm to society.										
GCC Project Verifier's Opinion:	The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to society.										

Section F. United Nations Sustainable Development Goals (SDG)

The project is expected to contribute 4 SDGs which are SDG 7, 8, 9, and 13.

SDG 7 Energy: The project contributes SDG Target 7.2 "By 2030, increase substantially the share of renewable energy in the global energy mix" by the utilization of solar power as a renewable energy source.

Related indicator: 7.2.1 Renewable energy share in the total final energy consumption

SDG 8 Economic Growth: The project creates direct and indirect employment opportunities during construction and operation phases, so it contributes to SDG Target 8.5 "By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value".

Related indicator: 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

SDG 9 Infrastructure, Industrialization: SDG Target 9.4 requires "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities". The project helps the Target 9.4 by implementing a clean, reliable and environmental-friendly infrastructure for clean energy production / up-to-date industrialization.

Related indicator: 9.4.1 CO_2 emission per unit of value added

SDG 13 Climate Change: The project produces clean renewable energy by diminishing CO_2 emissions. Therefore, it contributes SDG Target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning".

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

UN-level SDGs	**UN-level Target**	**Declared Country-level SDG**	**Defining Project-level SDGs**				**GCC Project Verifier's Conclusion** **(To be included in Project Verification Report only)**	
			Project-level SDGs	**Project-level Targets/Actions**	**Contribution of Project-level Actions to SDG Targets**	**Monitoring**	**Verification Process**	**Are Goal/ Targets Likely to be Achieved?**
Describe UN SDG targets and indicators *See: https://unstats.un.org/sdgs/indicators/indicators-list/*	*Describe the UN-level target(s) and corresponding indicator no(s)*	*Has the host country declared the SDG to be a national priority? Indicate Yes or No*	*Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope or creating a new indicator(s). Refer to previous column for guidance.*	*Define project-level targets/actions in line with nee project level indicators chosen. Define the target date by which the project Activity is expected to achieve the project-level SDG target(s).*	*Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets*	*Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG indicator and its correspondi ng target, frequency of monitoring*	*Describe how the GCC Verifier has verified the claims that the project is likely to achieve the identified Project level SDGs target(s).*	*Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or no)*

							and data source		
Goal 1: End poverty in all its forms everywhere	-	-	-	-	-	-	-	-	-
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	-	-	-	-	-	-	-	-	-
Goal 3. Ensure healthy lives and promote well-being for all at all ages	-	-	-	-	-	-	-	-	-
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	-	-	-	-	-	-	-	-	-
Goal 5. Achieve gender equality and empower all women and girls	-	-	-	-	-	-	-	-	-
Goal 6. Ensure availability and sustainable management of water and sanitation for all	-	-	-	-	-	-	-	-	-
Goal 7. Ensure access to	SDG Target	Yes	Increase the share of renewables in the total installed	Annually generate around	Amount of renewable	The project increases the	The project fully	-	-

affordable, reliable, sustainable, and modern energy for all	7.2 "By 2030, increase substantially the share of renewable energy in the global energy mix" by the utilization of solar power as a renewable energy source." Indicator 7.2.1 Renewable energy share in the total final energy consumption		power capacity connected to the national grid.	11,772 MWh of renewable energy using solar energy. Enhance the share of installed electricity generation capacity from renewable energy sources	energy supplied to grid for consumption. Provide 11,772 MWh clean energy annually.	renewable energy share in Türkiye's energy production mix. It provides 11,772 MWh annual clean energy to the grid.	commissioned and generates electricity from a clean resource without any problem.		
Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all	SDG Target 8.5 "By 2030, achieve full and productive employment and decent work for all women and men, including for young people	Yes	Generated job opportunity and income	Provide a long term employment opportunity.	Employees will be recruited including all levels.	The project created job opportunity for both construction and operation period. It created long term employment for people directly working at the site.	Project owner employs people according to the regulations. Social security payments are done regularly. Check employment records.	-	-

	and persons with disabilities and equal pay for work of equal value". Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities								
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	SDG Target 9.4 requires "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater	Yes	Reduction in Emissions (tCO_2e) per unit of product due to project.	Reduction in emissions around 7,637 **tCO_2**/year	The project has been implemented as per design spec and is likely to provide clean renewable energy of around 11,772 MWh per year thus resulting in around 7,637 tCO_2e emission reduction per year.	Calculation of amount of actual emission reduction achieved by the project, measurement of monthly energy generation from project. Calculate avoided GHG emissions every year.	Project is operational first since 2017 and goes on without any problem. Project owner operates the plant since, and complies with targeted SDGs so far.	-	-

	adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities". Indicator 9.4.1 CO2 emission per unit of value added								
Goal 10. Reduce inequality within and among countries	-	-	-	-	-	-	-	-	-
Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable	-	-	-	-	-	-	-	-	-
Goal 12. Ensure sustainable consumption and production patterns	-	-	-	-	-	-	-	-	-
Goal 13. Take urgent action to combat climate change and its impacts	SDG Target 13.3 "Improve	Yes	Amount of emission reduction achieved by project under UNFCCC/GCC market mechanism	Reduction in emissions around 7,637 **tCO_2**/year	The project has been implemented as per	The project has been implemented as per design	Calculation of amount of actual emission	-	-

	education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning” “Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptatio				design spec and is likely to provide clean renewable energy of around 11,772 MWh per year thus resulting in around 7,637 tCO_2e emission reduction per year.	spec and is likely to provide clean renewable energy of around 11,772 MWh per year thus resulting in around 7,637 TCO2e emission reduction per year	reduction achieved by the project, measurement of monthly energy generation from project.		

	n, impact reduction and early warning". Indicator 13.3.2 "13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions"								
Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development	-	-	-	-	-	-	-	-	-
Goal 15. Protect, restore, and promote sustainable use of terrestrial	-	-	-	-	-	-	-	-	-

ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss									
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels	-	-	-	-	-	-	-	-	-
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	-	-	-	-	-	-	-	-	-

SUMMARY	Targeted	Likely to be Achieved
Total Number of SDGs	**4**	**4**
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF	**Gold**	**Gold**

Section G. Local stakeholder consultation

G.1. MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION

The projects in the bundle are solar power plant projects under 1 MW each, hence, they are "out of scope" of environmental impact assessment and are not included in the list of EIA assessment required plants[61]. In the Regulation on Environmental Impact Assessment (No: 39647), Annex-1 "list of projects that environmental impact assessment will be applied" [62], solar projects under 1 MW are not included. Hence, a local stakeholder consultation (LSC) meeting was not required during the project implementation. In line with GCC Standard requirement of a LSC process, LSC was done remotely due to the Covid-19 precautions in Türkiye. During the beginning of the stakeholder consultation for Astronergy Solar Turkey 3, obligations to wear a mask was still mandatory and was decided that Coronavirus Scientific Advisory Board were to continue their actions[63]. The number of infected people with Covid was still high during the time[64]. It was deduced that the stakeholder consultation process would be more comfortable to the participants if they were contacted in small groups or individually, instead of gathering on a set date in a closed area. Therefore, the stakeholder consultation was conducted for a longer period (around 2 months) to reach out to people from many different nearby neighborhood and villages.

LSC was conducted between 04/2022 to 06/2022 in Erzincan and Osmaniye Provinces via information sheets provided to the local stakeholders by the project employees in person. Information about the project and the GCC Standard was provided verbally as well. People with different occupations were contacted in the process.

The information sheet has the details of:

- Positive impacts on environment (E+ Label)
- Positive impacts on social (S+ Label)
- Technical and non-technical information about the project
- Environment and social impacts of the project as well as the SDG contributions

Moreover, sheets included a sustainable development form for them to fill and an evaluator information sheet with sections to write their input on positive and negative impacts of the project.
Also, a grievance book were provided by the project owner in the mukhtar's office for the continuous input mechanism. The communication culture in the area is verbal, hence, comments are received mostly verbally. Some filled-out sample forms are provided in Appendix 6.
Stakeholders idenfied were the locals near project sites in Erzincan and Osmaniye Provinces.

G.2. SUMMARY OF COMMENTS RECEIVED

Stakeholders pointed out that the project uses solar power to generate electricity without creating air pollution and environmental pollution. Employment opportunities created by the project activity was also mentioned. No negative comments were received from the stakeholders. The original forms as well as their English versions are provided in Appendix 6.

[61] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39647&MevzuatTur=7&MevzuatTertip=5
[62] https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=39647&MevzuatTur=7&MevzuatTertip=5
[63] https://tr.wikipedia.org/wiki/T%C3%BCrkiye%27de_COVID-19_pandemisi
[64] https://www.worldometers.info/coronavirus/country/turkey/

G.3. CONSIDERATION OF COMMENTS RECEIVED

The project owner is willing to meet stakeholders' wishes at any stage of the project activity. The comments received from the stakeholders are recorded and considered by the project owner.

It can be deduced from stakeholders' comments on the evaluation forms, that the stakeholders have positive opinions about the project.

Section H. Approval and authorization

As per GCC requirements, if GCC Program receives the approval to issue CORSIA eligible units beyond 31 December 2020, the Project owner shall ensure that there is no double counting for Emission units generated after 31 December 2020. Hence, a written attestation, expressing the intention, from the host country's national focal point or focal point designee shall be provided prior to submission of request for registration to the GCC Program. This authorization is not required if ACCs are requested to be issued for monitoring period ending on or prior to 31 December 2020 and this is not a requirement for C+ Label. A written attestation from the host country's national focal point or focal point designee will be provided at the earliest opportunity, but prior to submission of requesting issuance to the GCC Program for the relevant monitoring period form 01/01/2021 onwards, for the issuance of ACCs with CORSIA-market eligibility flag (C+).

APPENDIX 1. CONTACT INFORMATION OF PROJECT OWNERS

Project Owner name (as per LON/LOA)	GTE Karbon Sürdürülebilir Enerji Eğitim Danışmanlık ve Tic. A.Ş.
Country	Türkiye
Address	MAIDAN Mustafa Kemal Mah. 2118. Cad. C Blok 42 Çankaya Ankara
Telephone	+90 312 514 63 63
Fax	-
E-mail	kemal.demirkol@gte.com.tr
Website	http://www.gte.com.tr/
Contact person	M. Kemal Demirkol

Organization name	Astronergy Solar Turkey Enerji A.Ş.
Country	Turkey
Address	FSM Mah. Poligon Cad. Buyaka Kule – 1 No: 8A Kat: 17 Ümraniye Istanbul
Telephone	+90 216 621 00 55
Fax	-
E-mail	emrah.yaka@astronergy.com.tr
Website	www.astronergy.com.tr
Contact person	Emrah Yaka

APPENDIX 2. AFFIRMATION REGARDING PUBLIC FUNDING

>>N/A

APPENDIX 3. APPLICABILITY OF METHODOLOGY(IES)

>> N/A

APPENDIX 4. FURTHER BACKGROUND INFORMATION ON EX ANTE CALCULATION OF EMISSION REDUCTIONS

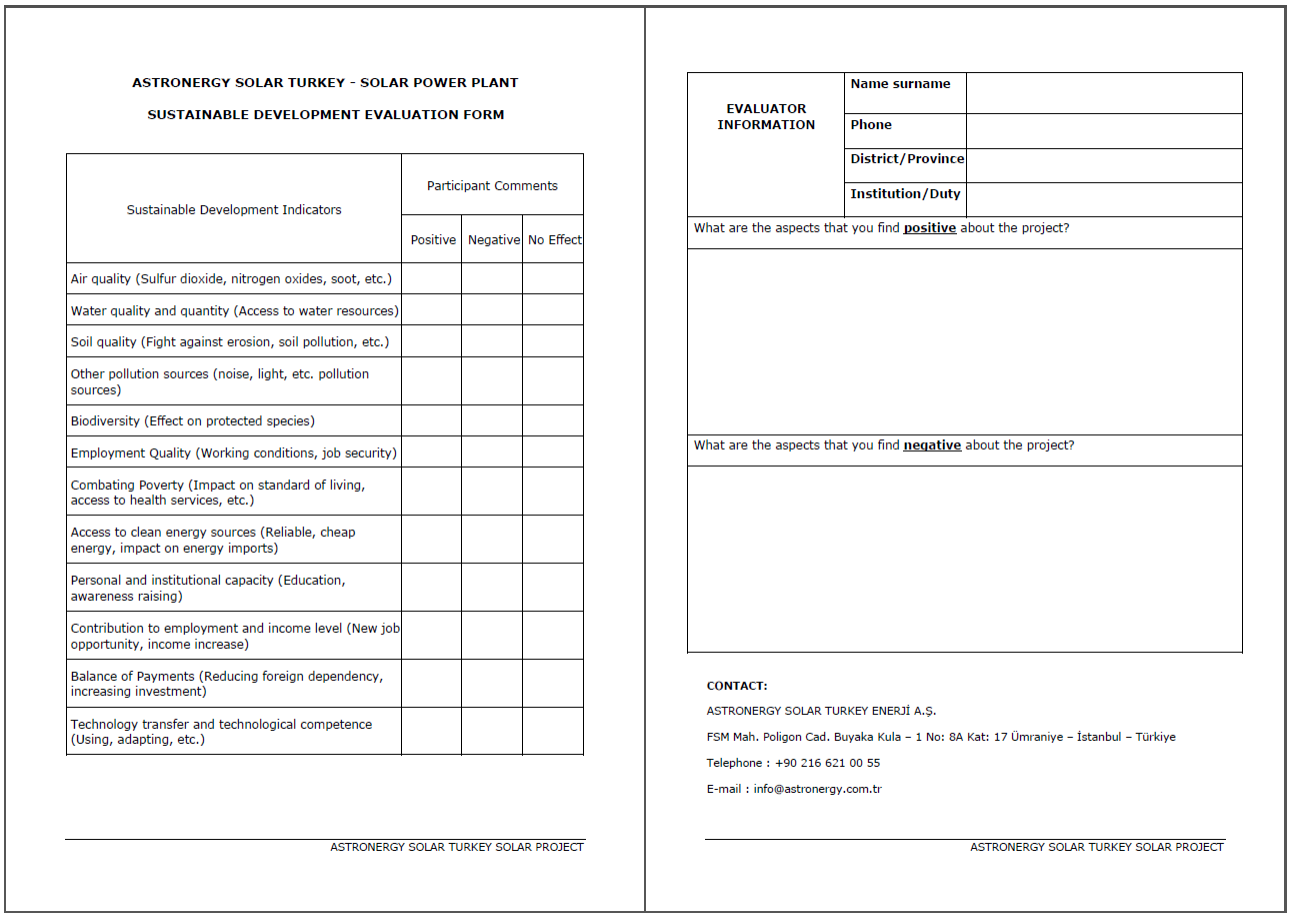
>> N/A

APPENDIX 5. FURTHER BACKGROUND INFORMATION ON MONITORING PLAN

>> N/A

APPENDIX 6. SUMMARY REPORT OF COMMENTS RECEIVED FROM LOCAL STAKEHOLDERS

The forms filled by the local stakeholders are provided in this section. Their personal phone numbers are covered in order to respect their privacy.



ASTRONERGY SOLAR TURKEY - SOLAR POWER PLANT

SUSTAINABLE DEVELOPMENT EVALUATION FORM

Sustainable Development Indicators	Participant Comments		
	Positive	Negative	No Effect
Air quality (Sulfur dioxide, nitrogen oxides, soot, etc.)			
Water quality and quantity (Access to water resources)			
Soil quality (Fight against erosion, soil pollution, etc.)			
Other pollution sources (noise, light, etc. pollution sources)			
Biodiversity (Effect on protected species)			
Employment Quality (Working conditions, job security)			
Combating Poverty (Impact on standard of living, access to health services, etc.)			
Access to clean energy sources (Reliable, cheap energy, impact on energy imports)			
Personal and institutional capacity (Education, awareness raising)			
Contribution to employment and income level (New job opportunity, income increase)			
Balance of Payments (Reducing foreign dependency, increasing investment)			
Technology transfer and technological competence (Using, adapting, etc.)			

ASTRONERGY SOLAR TURKEY SOLAR PROJECT

EVALUATOR INFORMATION	**Name surname**	
	Phone	
	District/Province	
	Institution/Duty	

What are the aspects that you find **positive** about the project?

What are the aspects that you find **negative** about the project?

CONTACT:

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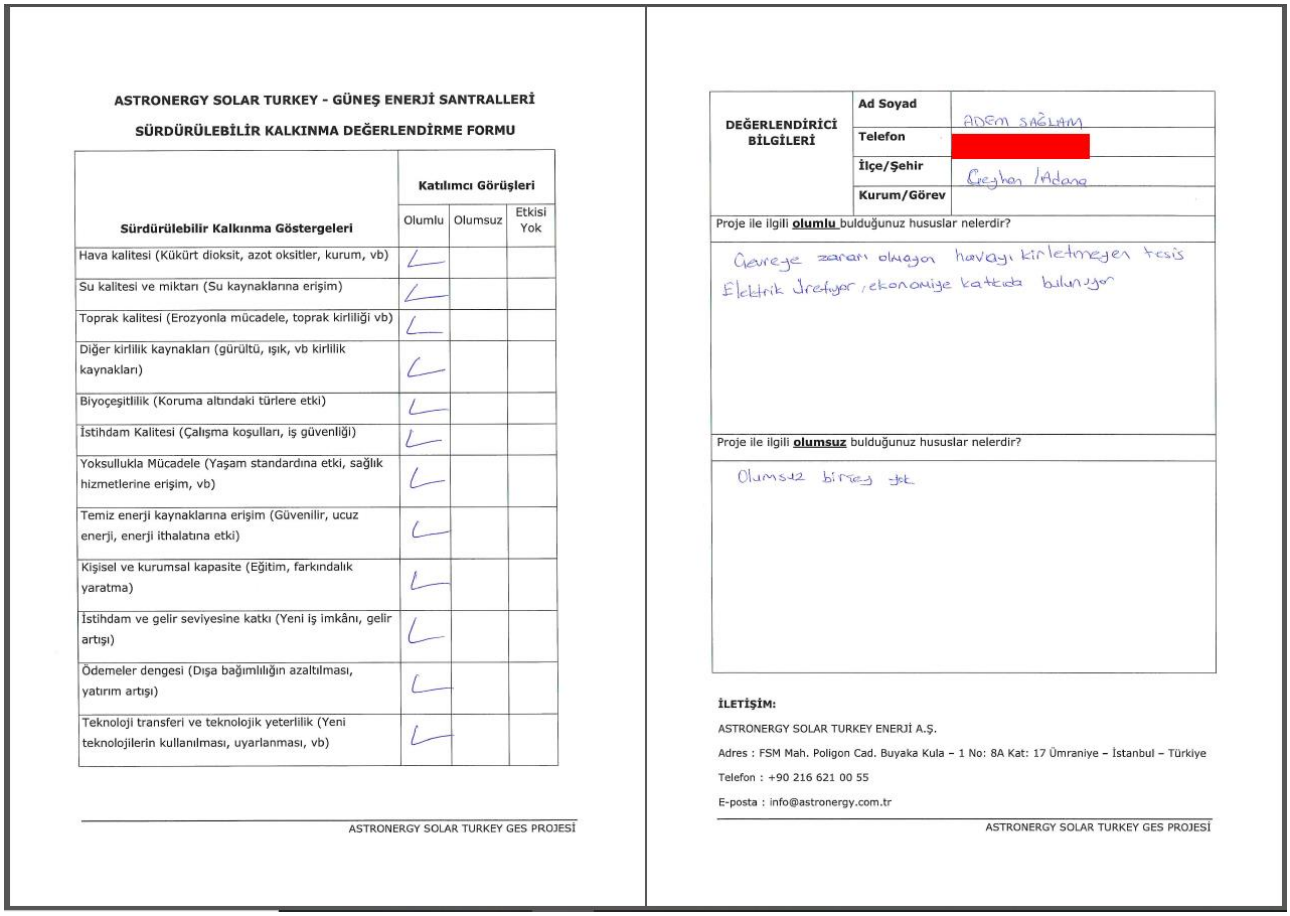
ASTRONERGY SOLAR TURKEY SOLAR PROJECT

Figure 7. Sustainable development evaluation form provided to local stakeholders



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Adem SAĞLAM
	Telefon	[redacted]
	İlçe/Şehir	Ceyhan /Adana
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Çevreye zararı olmayan havayı kirletmeyen tesis Elektrik üretiyor, ekonomiye katkıda bulunuyor

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir şey yok

İLETİŞİM:

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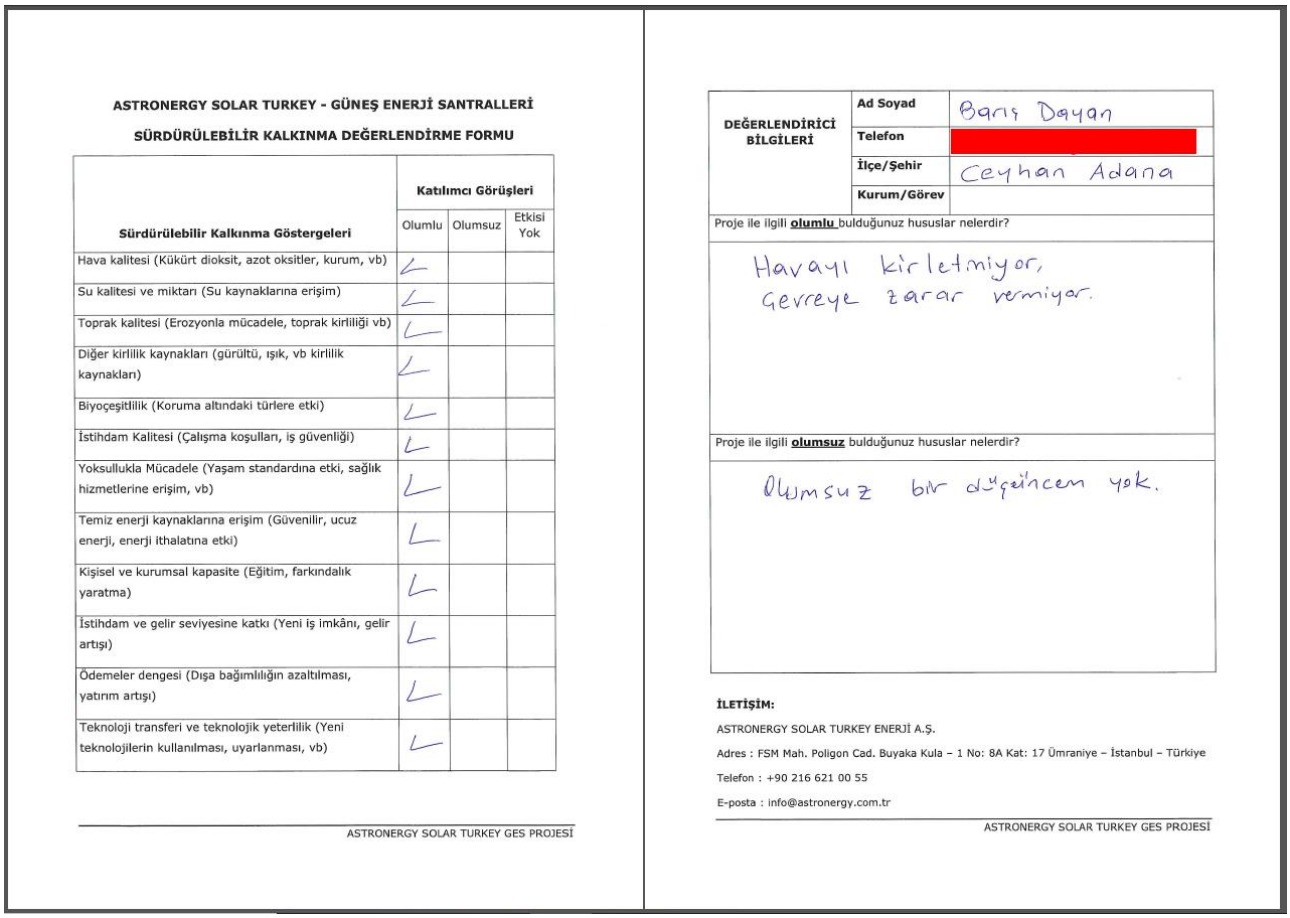
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Adem Sağlam
	District/Province	Ceyhan/Adana
What are the aspects that you find **positive** about the project?		
A plant that does not harm the environment or pollute air. Produces electricity, supports economy.		
What are the aspects that you find **negative** about the project?		
There is nothing negative.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Barış Dayan
	Telefon	[redacted]
	İlçe/Şehir	Ceyhan Adana
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Havayı kirletmiyor, çevreye zarar vermiyor.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir düşüncem yok.

İLETİŞİM:

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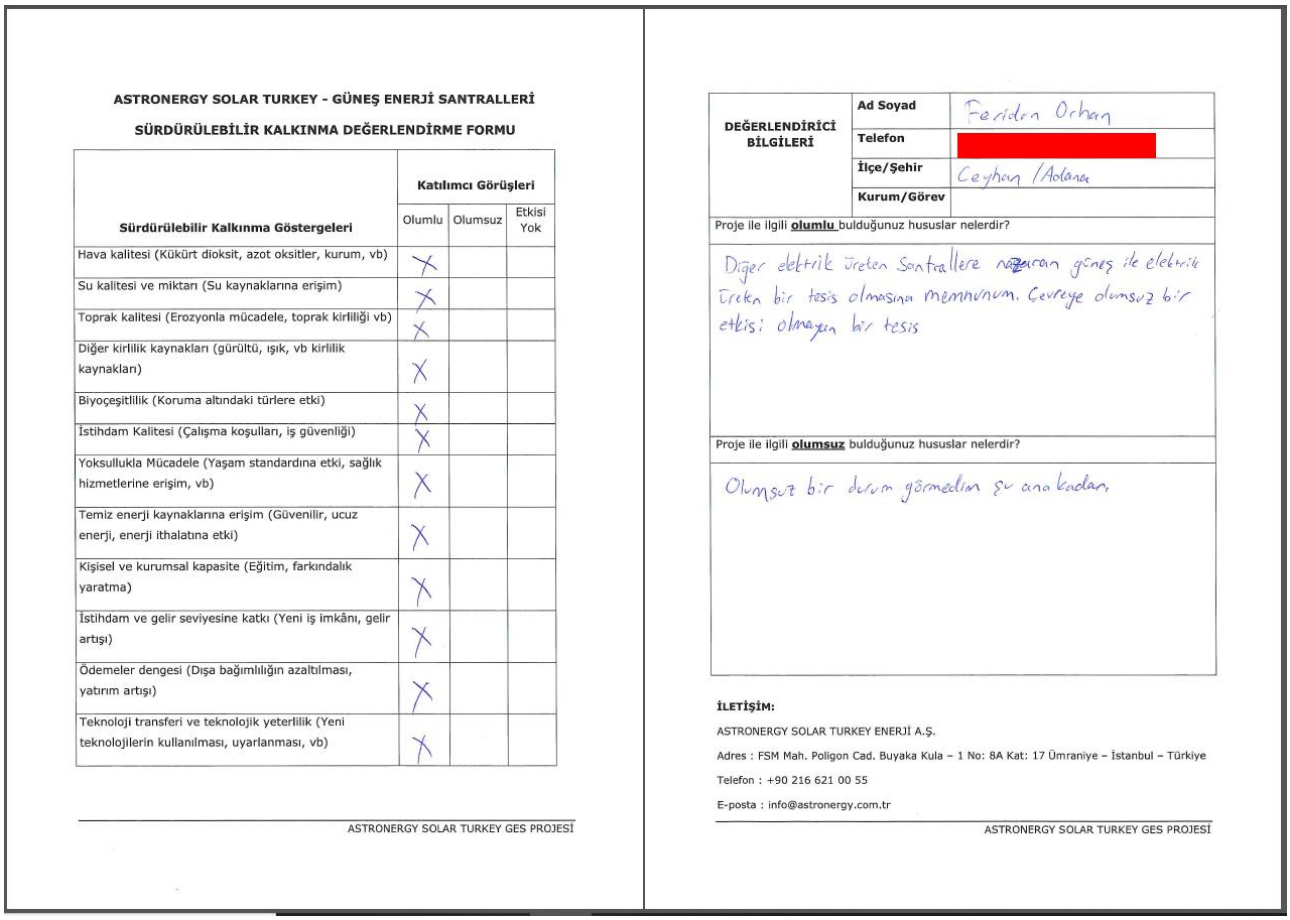
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Barış Dayan
	District/Province	Ceyhan/Adana
What are the aspects that you find **positive** about the project?		
Does not pollute environment or the environment.		
What are the aspects that you find **negative** about the project?		
I don't have any negative thoughts.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	X		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	X		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	X		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	X		
Biyoçeşitlilik (Koruma altındaki türlere etki)	X		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	X		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	X		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	X		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	X		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	X		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	X		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	X		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Feridun Orhan
	Telefon	[redacted]
	İlçe/Şehir	Ceyhan /Adana
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Diğer elektrik üreten Santrallere nazaran güneş ile elektrik üreten bir tesis olmasına memnunum. Çevreye olumsuz bir etkisi olmayan bir tesis

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir durum görmedim şu ana kadar.

İLETİŞİM:

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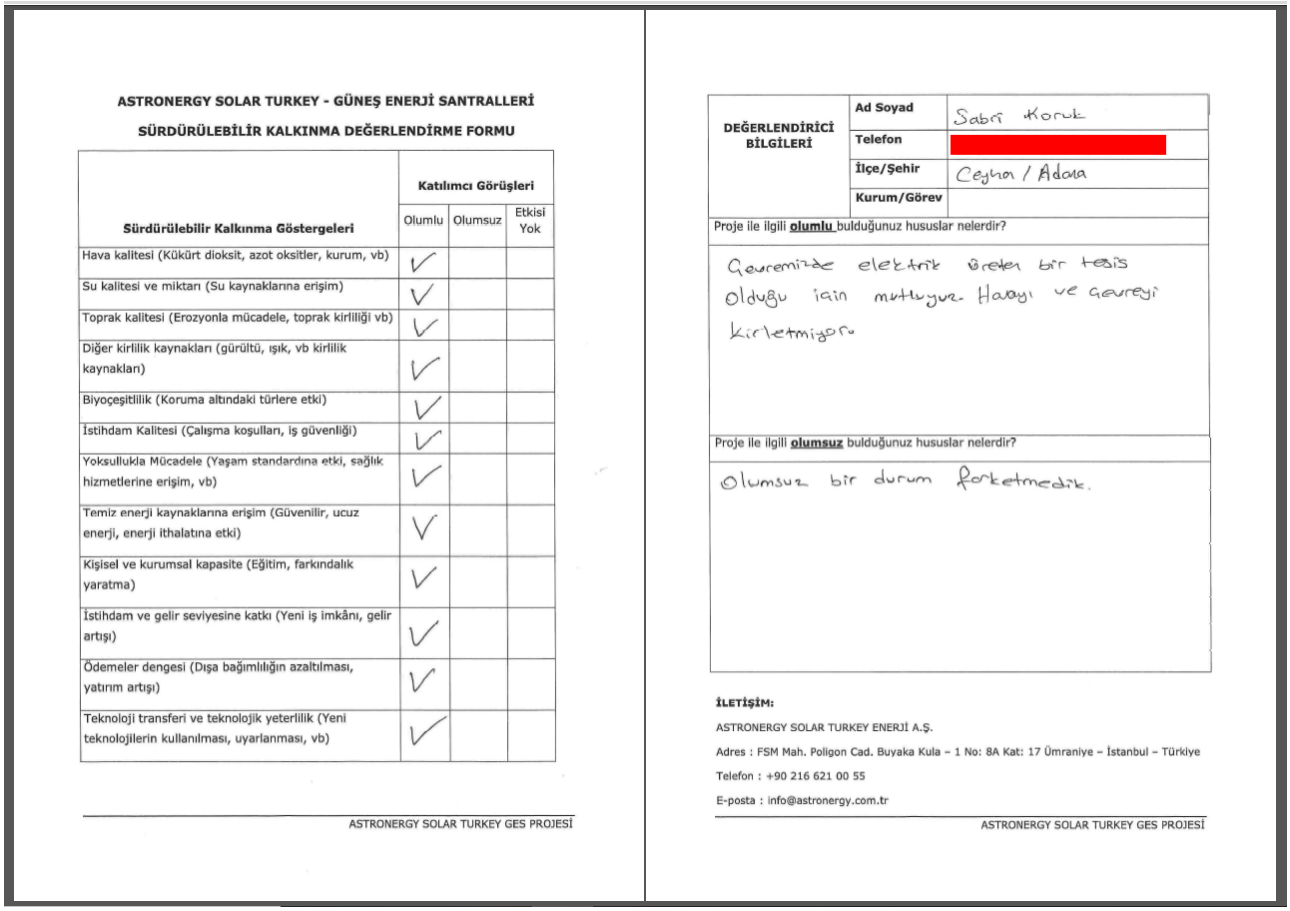
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Feridun Orhan
	District/Province	Ceyhan/Adana
What are the aspects that you find **positive** about the project?		
Compared to the other electricity generation facilities, I am happy that it uses solar power to generate electricity. It is a plant that does not have negative effects to the environment.		
What are the aspects that you find **negative** about the project?		
I have not seen any negative issue until now.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Sabri Koruk
	Telefon	[redacted]
	İlçe/Şehir	Ceyhan / Adana
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Çevremizde elektrik üreten bir tesis olduğu için mutluyuz. Havayı ve çevreyi kirletmiyor.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir durum fark etmedik.

İLETİŞİM:

ASTRONERGY SOLAR TURKEY ENERJİ A.Ş.

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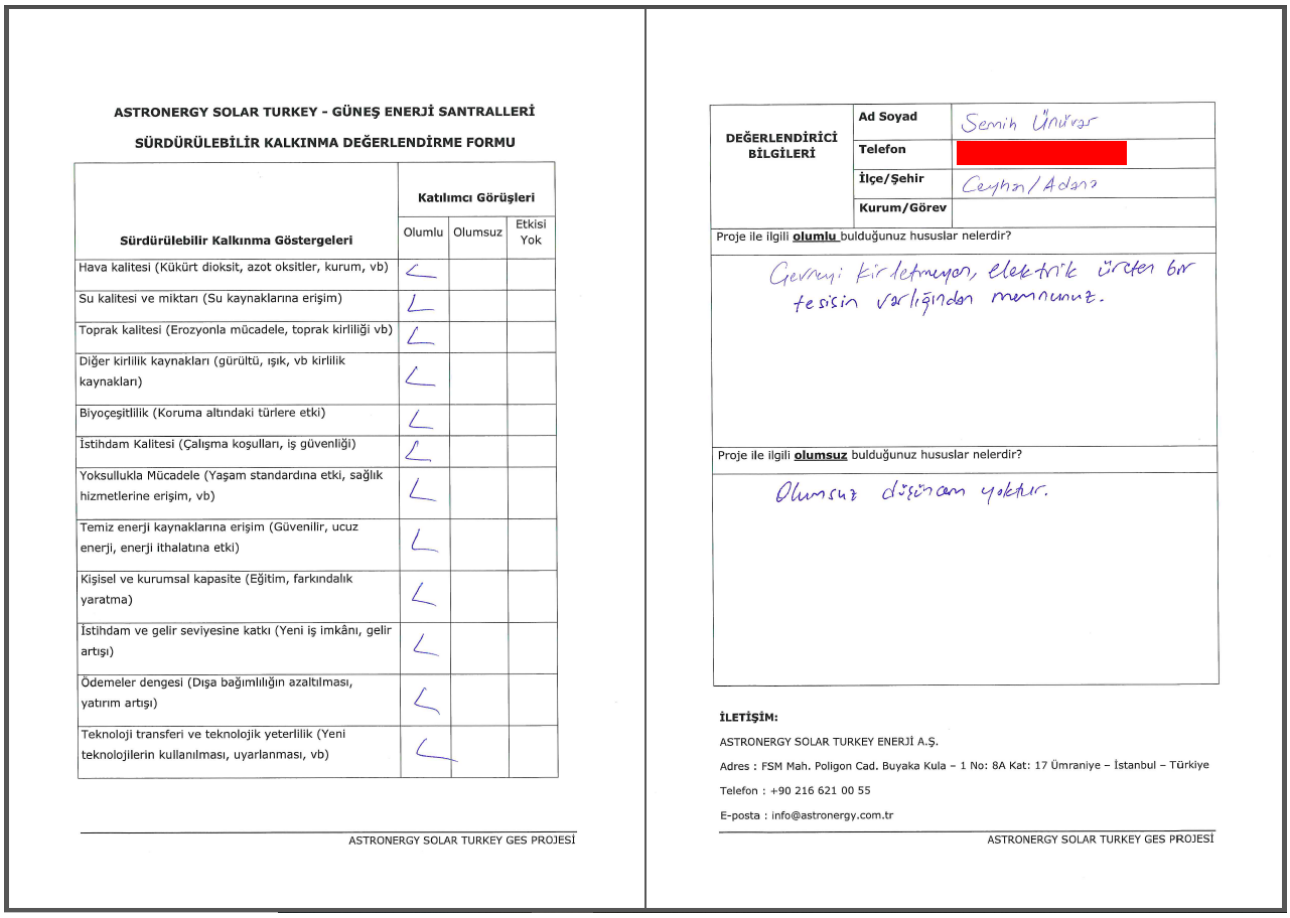
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Sabri Koruk
	District/Province	Ceyhan/Adana
What are the aspects that you find **positive** about the project?		
We are happy that there is an electricity generation facility nearby. It does not pollute the air or the environment.		
What are the aspects that you find **negative** about the project?		
We did not notice any negative condition.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Semih Ünüvar
	Telefon	[redacted]
	İlçe/Şehir	Ceyhan/Adana
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Çevreyi kirletmeyen, elektrik üreten bir tesisin varlığından memnunuz.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz düşüncem yoktur.

İLETİŞİM:

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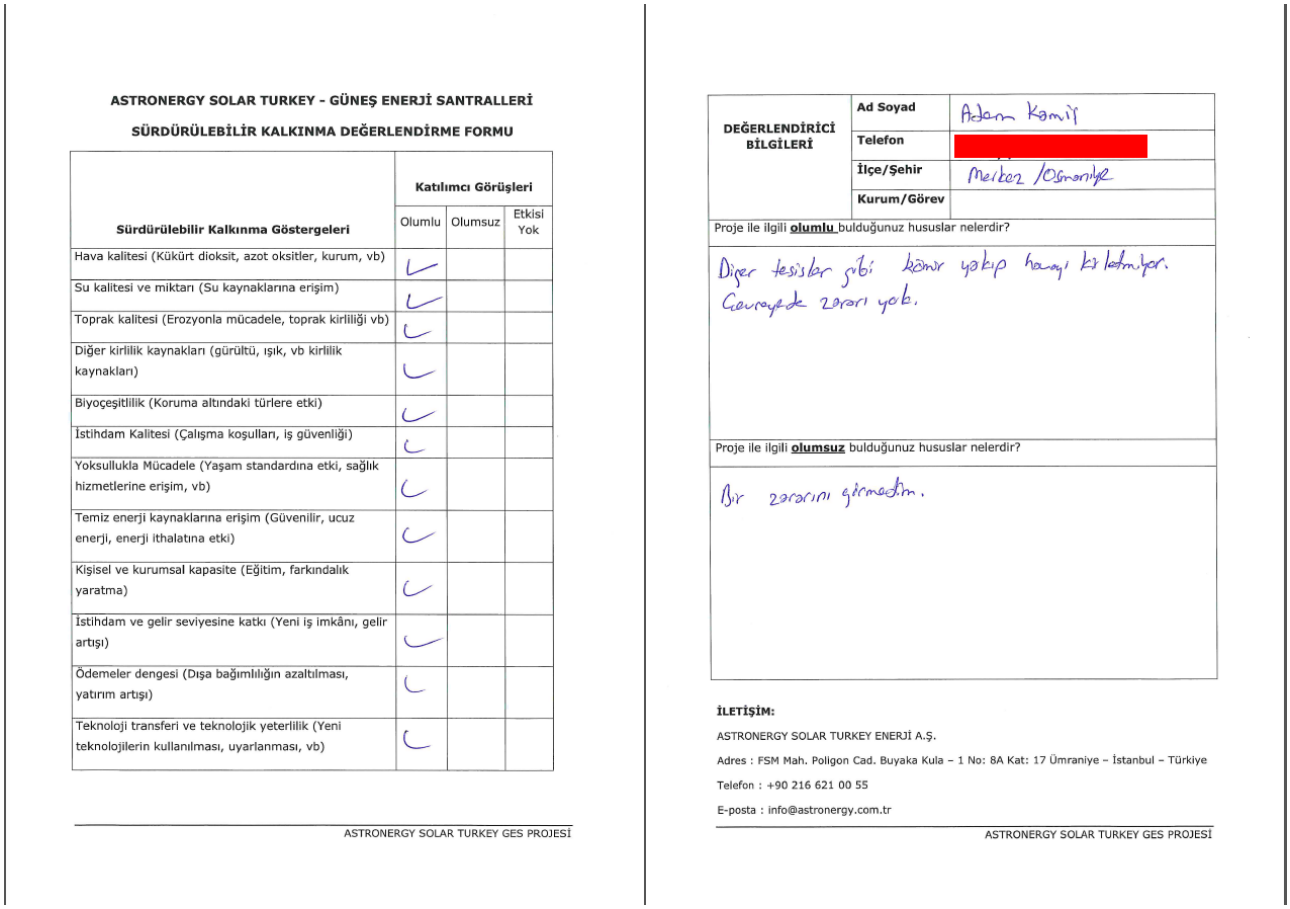
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Semih Ünüvar
	District/Province	Ceyhan/Adana
What are the aspects that you find **positive** about the project?		
Does not pollute the environment. We are content with the presence of an electricity generating plant.		
What are the aspects that you find **negative** about the project?		
I don't have any negative thoughts.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Adem Kamil
	Telefon	[redacted]
	İlçe/Şehir	Merkez / Osmaniye
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Diğer tesisler gibi kömür yakıp havayı kirletmiyor. Çevreyede zararı yok.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Bir zararını görmedim.

İLETİŞİM:

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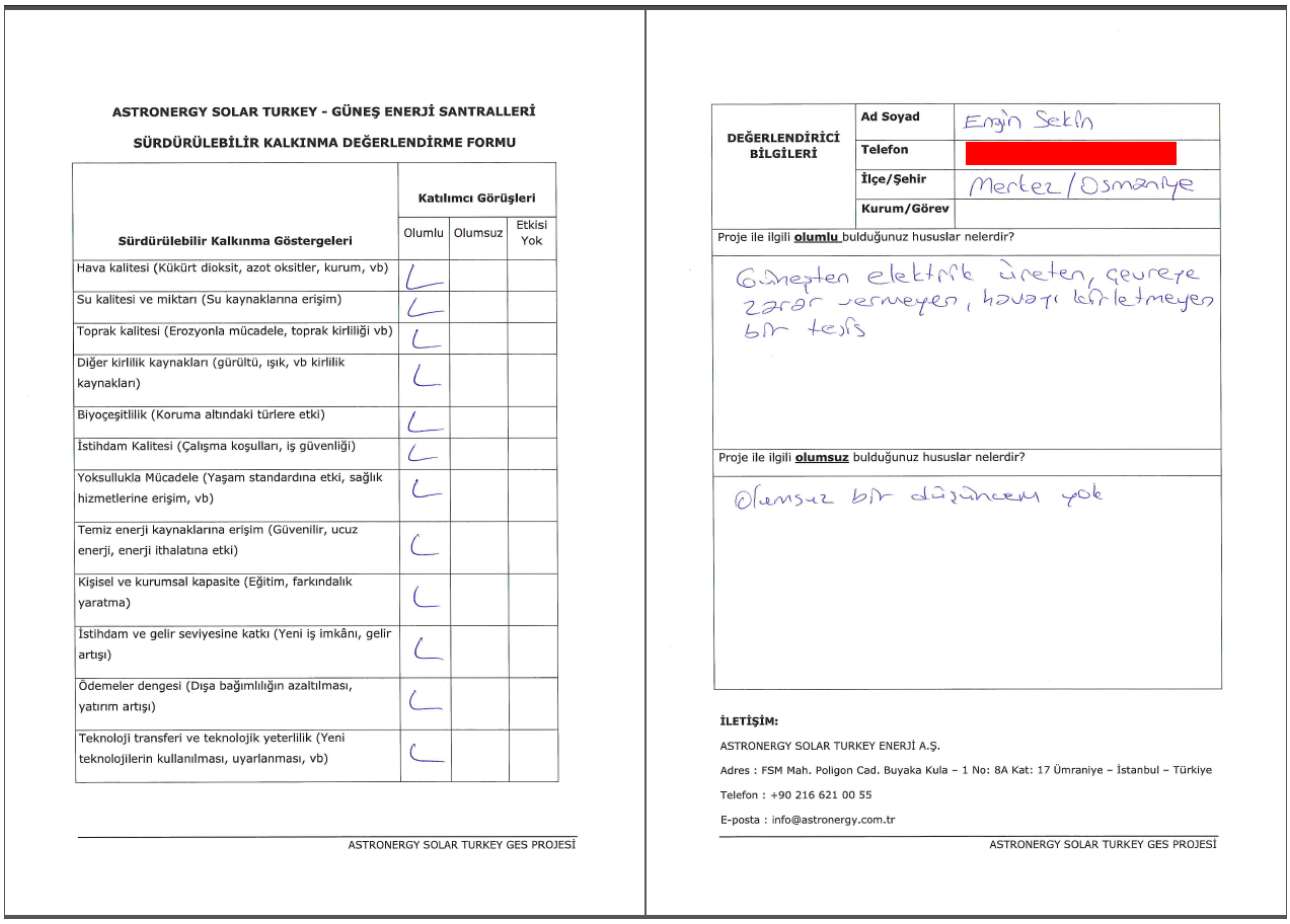
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Adem Kamil
	District/Province	Merkez/Osmaniye
What are the aspects that you find **positive** about the project?		
Does not pollute air by burning coal like other plants. Does not pollute the environment.		
What are the aspects that you find **negative** about the project?		
I did not witness any negative impact.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Engin Sekin
	Telefon	[redacted]
	İlçe/Şehir	Merkez/Osmaniye
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Güneşten elektrik üreten, çevreye zarar vermeyen, havayı kirletmeyen bir tesis

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir düşüncem yok

İLETİŞİM:

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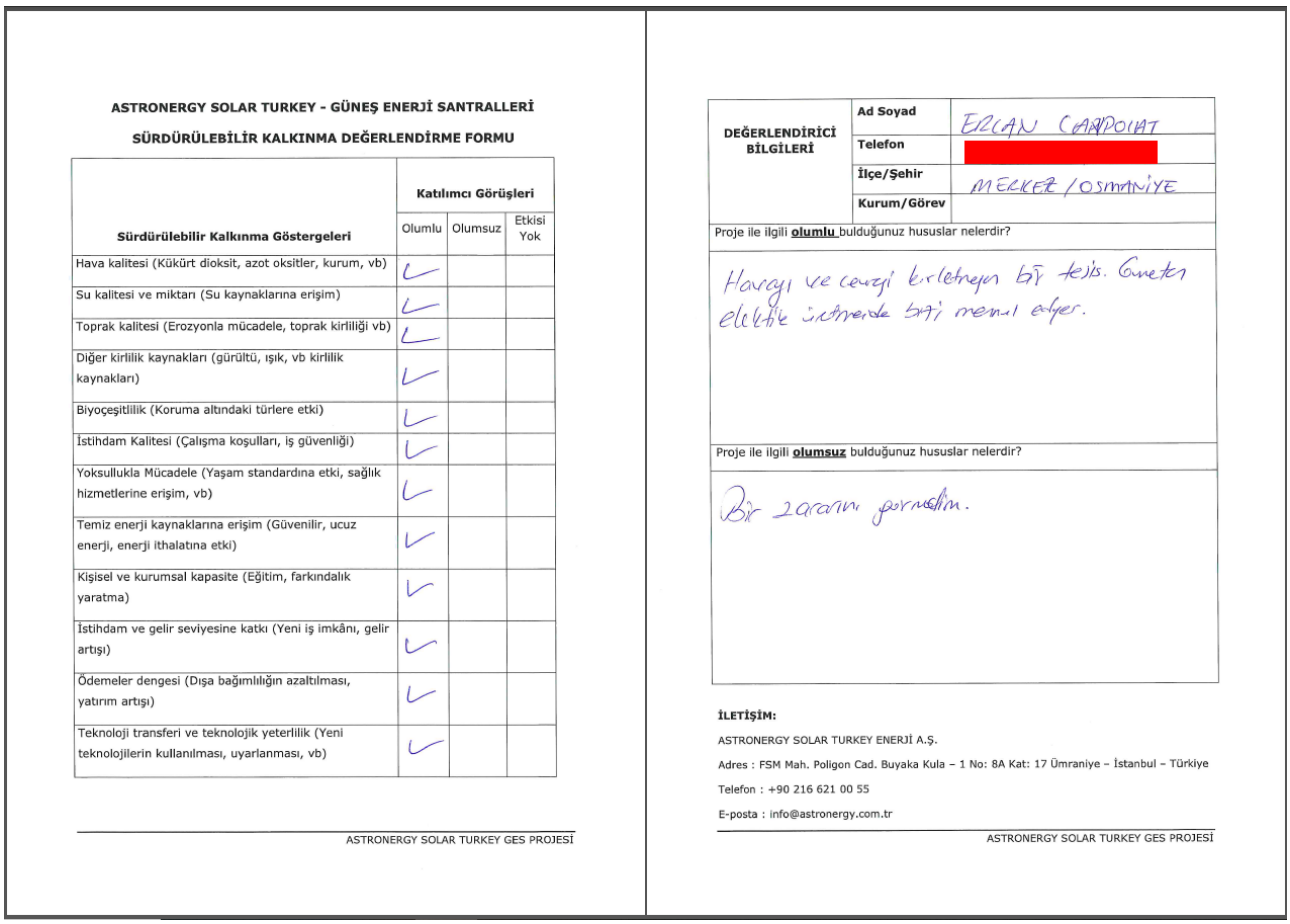
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Engin Sekin
	District/Province	Merkez/Osmaniye
What are the aspects that you find **positive** about the project?		
It is a power plant that harnesses solar power to generate electricity, does not pollute the environment and air.		
What are the aspects that you find **negative** about the project?		
I don't have any negative thoughts.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	ERCAN CANPOLAT
	Telefon	[redacted]
	İlçe/Şehir	MERKEZ / OSMANİYE
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Havayı ve cevreyi kirletmeyen bir tesis. Güneşten elektrik üretmede bize menfaat sağlar.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Bir zararını görmedim.

İLETİŞİM:

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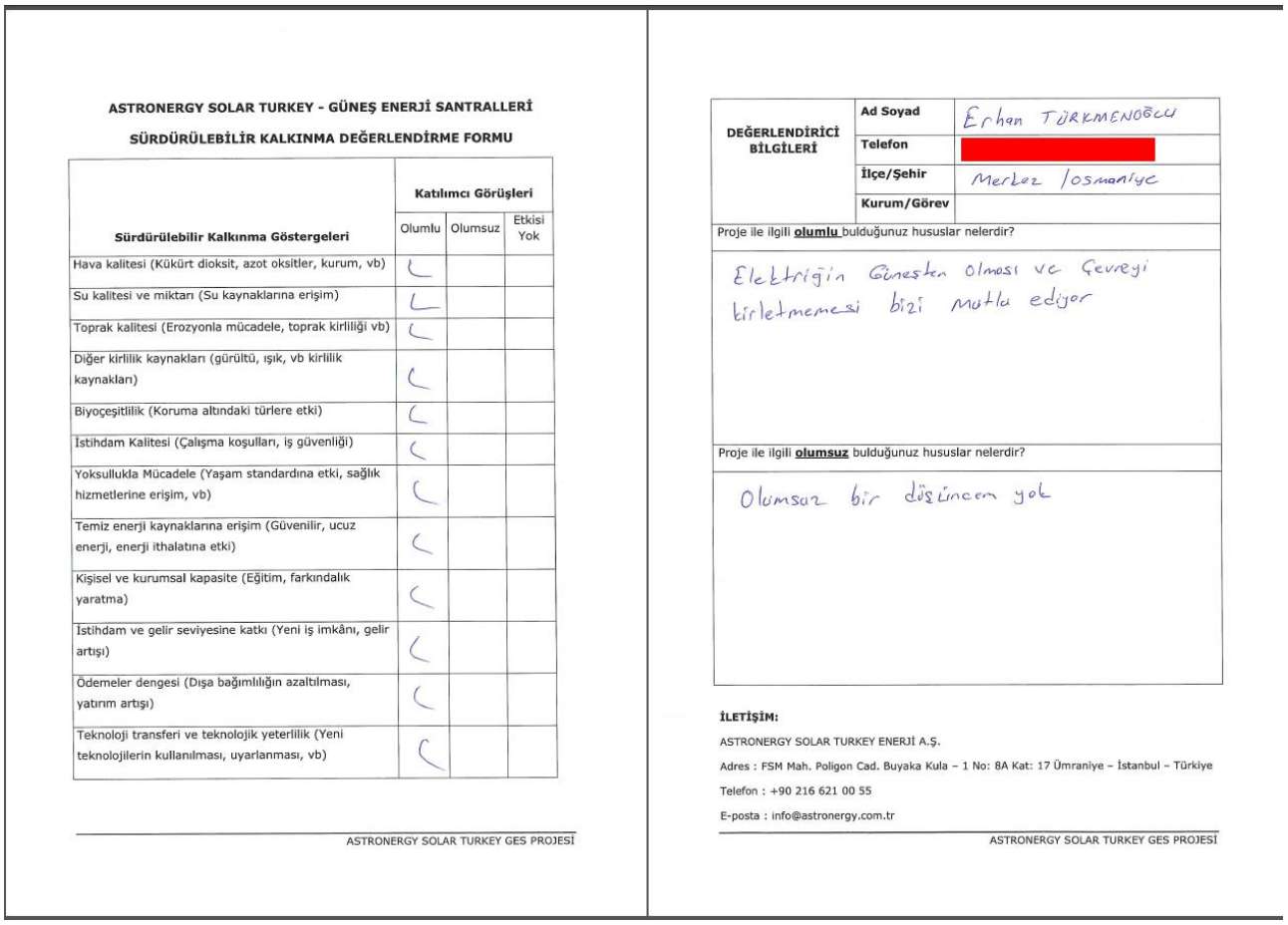
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Ercan Canpolat
	District/Province	Merkez/Osmaniye
What are the aspects that you find **positive** about the project?		
It does not pollute the environment and air. It makes us happy that the plant uses te sun to generate electricity.		
What are the aspects that you find **negative** about the project?		
We did not see any negative effects.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	Erhan TÜRKMENOĞLU
	Telefon	[redacted]
	İlçe/Şehir	Merkez /Osmaniye
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Elektriğin Güneşten olması ve çevreyi kirletmemesi bizi mutlu ediyor

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

Olumsuz bir düşüncem yok

İLETİŞİM:

ASTRONERGY SOLAR TURKEY ENERJİ A.Ş.

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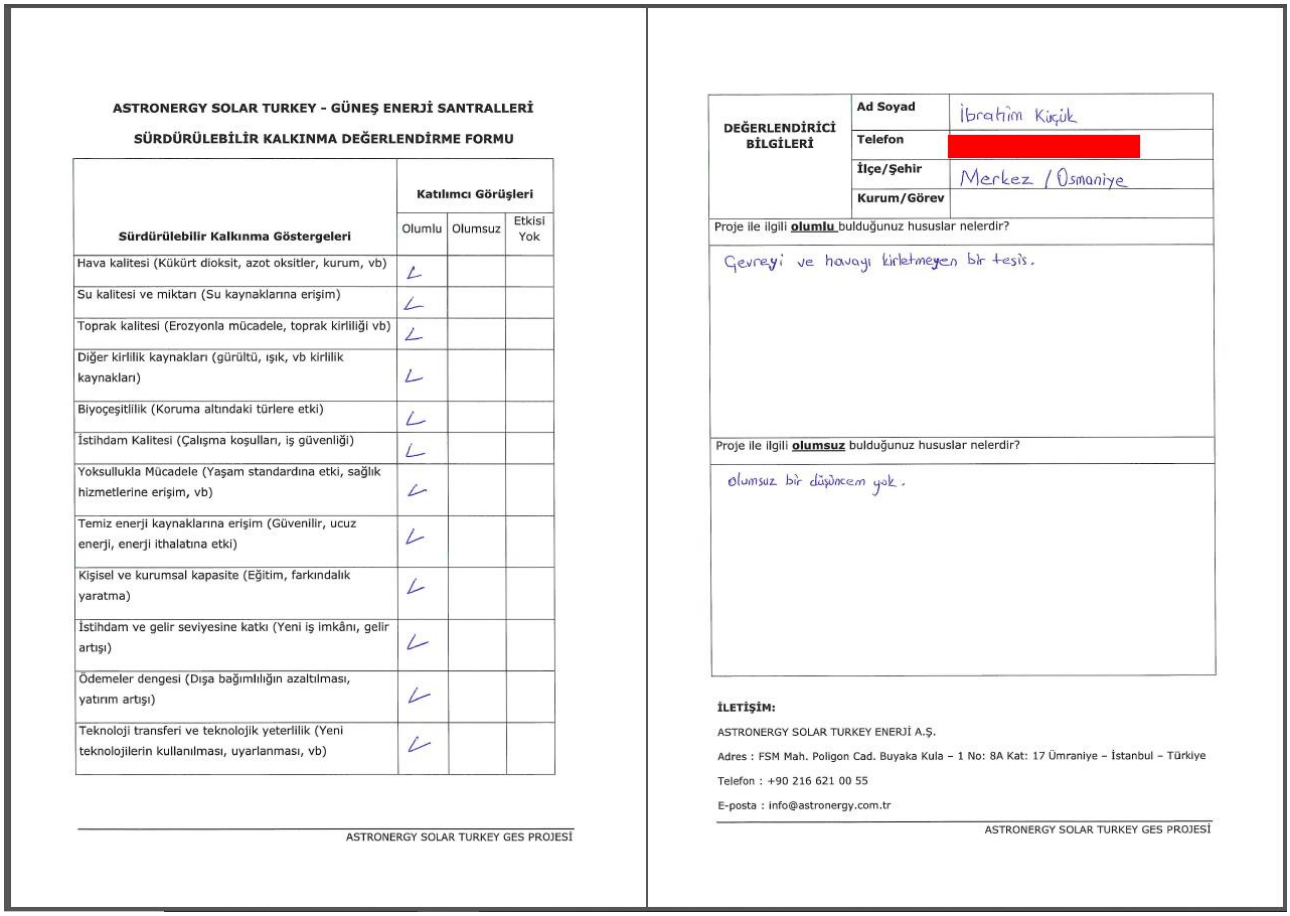
ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	Erhan Türkmenoğlu
	District/Province	Merkez/Osmaniye
What are the aspects that you find **positive** about the project?		
Electricity source being the sun and not polluting the environment make us happy.		
What are the aspects that you find **negative** about the project?		
No negative thoughts.		



ASTRONERGY SOLAR TURKEY - GÜNEŞ ENERJİ SANTRALLERİ

SÜRDÜRÜLEBİLİR KALKINMA DEĞERLENDİRME FORMU

Sürdürülebilir Kalkınma Göstergeleri	Katılımcı Görüşleri		
	Olumlu	Olumsuz	Etkisi Yok
Hava kalitesi (Kükürt dioksit, azot oksitler, kurum, vb)	✓		
Su kalitesi ve miktarı (Su kaynaklarına erişim)	✓		
Toprak kalitesi (Erozyonla mücadele, toprak kirliliği vb)	✓		
Diğer kirlilik kaynakları (gürültü, ışık, vb kirlilik kaynakları)	✓		
Biyoçeşitlilik (Koruma altındaki türlere etki)	✓		
İstihdam Kalitesi (Çalışma koşulları, iş güvenliği)	✓		
Yoksullukla Mücadele (Yaşam standardına etki, sağlık hizmetlerine erişim, vb)	✓		
Temiz enerji kaynaklarına erişim (Güvenilir, ucuz enerji, enerji ithalatına etki)	✓		
Kişisel ve kurumsal kapasite (Eğitim, farkındalık yaratma)	✓		
İstihdam ve gelir seviyesine katkı (Yeni iş imkânı, gelir artışı)	✓		
Ödemeler dengesi (Dışa bağımlılığın azaltılması, yatırım artışı)	✓		
Teknoloji transferi ve teknolojik yeterlilik (Yeni teknolojilerin kullanılması, uyarlanması, vb)	✓		

ASTRONERGY SOLAR TURKEY GES PROJESİ

DEĞERLENDİRİCİ BİLGİLERİ		
	Ad Soyad	İbrahim Küçük
	Telefon	[redacted]
	İlçe/Şehir	Merkez / Osmaniye
	Kurum/Görev	

Proje ile ilgili **olumlu** bulduğunuz hususlar nelerdir?

Çevreyi ve havayı kirletmeyen bir tesis.

Proje ile ilgili **olumsuz** bulduğunuz hususlar nelerdir?

olumsuz bir düşüncem yok.

İLETİŞİM:

ASTRONERGY SOLAR TURKEY ENERJİ A.Ş.

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ASTRONERGY SOLAR TURKEY GES PROJESİ

EVALUATOR INFORMATION	**Name surname**	İbrahim Küçük
	District/Province	Merkez/Osmaniye
What are the aspects that you find **positive** about the project?		
No environment or air pollution.		
What are the aspects that you find **negative** about the project?		
No negative thoughts.		

APPENDIX 7. SUMMARY OF DE-REGISTERED CDM PROJECT OR PROJECTS FROM OTHER GHG / NON-GHG PROGRAMS (TYPE B)

>>N/A

Appendix 8. FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY.

>> N/A

Appendix 9. PUBLIC DECLARATION FOR A2 (Sub Type 2 and 3), B1 & B2 PROJECTS ON NON CONTINUATION FROM CDM/GHG/NON-GHG PROGRAMS.

>> N/A

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