

المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL



Project Verification Report

V3.1 - 2020

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Project Verification Report Form (PVR)	
BASIC INFORMATION	
Name of approved GCC Project Verifier / Reference No. (also provide weblink of approved GCC Certificate)	Earthood Services Private Limited/ GCCV001/00 (http://globalcarboncouncil.com/wp-content/uploads/2021/10/gcc-verifier-cert-espl.pdf)
Type of Accreditation	<input type="checkbox"/> Individual Track ¹ <input checked="" type="checkbox"/> CDM Accreditation <input type="checkbox"/> ISO 14065 Accreditation Active accreditation from United Nations Framework Convention on Climate Change valid till 01/08/2024; Ref no. CDM-E-0066; https://cdm.unfccc.int/DOE/list/DOE.html?entityCode=E-0066
Approved GCC Scopes and GHG Sectoral scopes for Project Verification	GHG Sectoral Scope: GHG SS# 1 - Energy (renewable/non-renewable sources) GCC Scopes: Environmental No-harm (E+) Social No-harm (S+) Sustainable Development Goals (SDG+) CORSIA Requirements
Validity of GCC approval of Verifier	16/07/2020 to 15/07/2022
Title, completion date, and Version number of the PSF to which this report applies	Karaçayır Wind Power Project Version 06 dated 20/04/2022
Title of the project activity	Karaçayır Wind Power Project
Project submission reference no. (as provided by GCC Program during GSC)	S00041

¹ **Note:** GCC Verifier under Individual tack is not eligible to conduct verifications for the GCC project that intends to supply carbon credits (ACCs) for CORSIA requirements.

<p>Eligible GCC Project Type² as per the Project Standard (Tick applicable project type)</p>	<p><input checked="" type="checkbox"/> Type A: <input type="checkbox"/> Type A1 <input checked="" type="checkbox"/> Type A2</p> <p><input type="checkbox"/> Type B – De-registered CDM Projects: <input type="checkbox"/> Type B1 <input type="checkbox"/> Type³ B2</p>																	
<p>Date of completion of Local stakeholder consultation</p>	<p>04/10/2021 - 05/10/2021</p>																	
<p>Date of completion and period of Global stakeholder consultation. Have the GSC comments been verified. Provide web-link.</p>	<p>GSC was conducted from 09/12/2021 to 23/12/2021. https://www.globalcarboncouncil.com/global-stakeholders-consultation/ No comments were received during GSC for this project</p>																	
<p>Name of Entity requesting verification service (can be Project Owners themselves or any Entity having authorization of Project Owners)</p>	<p>Life İklim ve Enerji Ltd Şti</p>																	
<p>Contact details of the representative of the Entity, requesting verification service (Focal Point assigned for all communications)</p>	<p>Telephone: (0312) 481 21 42 Fax: (0312) 480 88 10 Email: ramazan.aslan@lifeenerji.com</p>																	
<p>Country where project is located</p>	<p>Turkey</p>																	
<p>GPS coordinates of the Project site(s)</p>	<table border="1"> <thead> <tr> <th>Wind Turbine</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>T1</td> <td>DMS: 39°56'12.1"N DD: 39.9366</td> <td>DMS: 36°58'55.1"E DD: 36.9819</td> </tr> <tr> <td>T2</td> <td>DMS: 39°56'15.5"N DD: 39.9376</td> <td>DMS: 36°59'08.6"E DD: 36.9857</td> </tr> <tr> <td>T3</td> <td>DMS: 39°56'18.7"N DD: 39.9385</td> <td>DMS: 36°59'21.9"E DD: 36.9894</td> </tr> <tr> <td>T4</td> <td>DMS: 39°56'28.3"N DD: 39.9411</td> <td>DMS: 36°59'47.6"E DD: 36.9965</td> </tr> </tbody> </table>	Wind Turbine	Latitude	Longitude	T1	DMS: 39°56'12.1"N DD: 39.9366	DMS: 36°58'55.1"E DD: 36.9819	T2	DMS: 39°56'15.5"N DD: 39.9376	DMS: 36°59'08.6"E DD: 36.9857	T3	DMS: 39°56'18.7"N DD: 39.9385	DMS: 36°59'21.9"E DD: 36.9894	T4	DMS: 39°56'28.3"N DD: 39.9411	DMS: 36°59'47.6"E DD: 36.9965		
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² Project Types defined in Project Standard and Program Definitions on GCC website.

³ GCC Project Verifier shall conduct Project Verification for all project types except B₂.

	T5	DMS: 39°56'35.5"N DD: 39.9431	DMS: 36°59'59.7"E DD: 36.9999
	T6	DMS: 39°56'41.9"N DD: 39.9449	DMS: 37°00'14.9"E DD: 37.0041
Applied methodologies (approved methodologies of GCC or CDM can be used)	AMS-I.D.: Grid connected renewable electricity generation, Version 18.0		
GHG Sectoral scopes linked to the applied methodologies	GHG-SS # 1. Energy (renewable / non-renewable sources)		
Project Verification Criteria: Mandatory requirements to be assessed	<input checked="" type="checkbox"/> ISO 14064-2, ISO 14064-3 <input checked="" type="checkbox"/> GCC Rules and Requirements <input checked="" type="checkbox"/> Applicable Approved Methodology <input checked="" type="checkbox"/> Applicable Legal requirements /rules of host country <input checked="" type="checkbox"/> National Sustainable Development Criteria (if any) <input checked="" type="checkbox"/> Eligibility of the Project Type <input checked="" type="checkbox"/> Start date of the Project activity <input checked="" type="checkbox"/> Meet applicability conditions in the applied methodology <input checked="" type="checkbox"/> Credible Baseline <input checked="" type="checkbox"/> Additionality <input checked="" type="checkbox"/> Emission Reduction calculations <input checked="" type="checkbox"/> Monitoring Plan <input checked="" type="checkbox"/> No GHG Double Counting <input checked="" type="checkbox"/> Local Stakeholder Consultation Process <input checked="" type="checkbox"/> Global Stakeholder Consultation Process <input checked="" type="checkbox"/> United Nations Sustainable Development Goals (Goal No 13- Climate Change) <input type="checkbox"/> Others (please mention below)		
Project Verification Criteria: Optional requirements to be assessed	<input checked="" type="checkbox"/> Environmental Safeguards Standard and do-no-harm criteria <input checked="" type="checkbox"/> Social Safeguards Standard do-no-harm criteria <input checked="" type="checkbox"/> United Nations Sustainable Development Goals (in additional to SDG 13) <input checked="" type="checkbox"/> CORSIA requirements		
Project Verifier's Confirmation: The GCC Project Verifier has verified the GCC project activity and therefore confirms the following:	<p>The GCC Project Verifier Earthood Services Private Limited, certifies the following with respect to the GCC Project Activity Karaçayır Wind Power Project.</p> <input checked="" type="checkbox"/> The Project Owner has correctly described the Project Activity in the Project Submission Form (version 06, dated 20/04/2022) including the applicability of the approved methodology AMS-I.D.: Grid connected renewable electricity generation, Version 18.0 and meets the methodology applicability conditions and		

	<p>is expected to achieve the forecasted real and additional GHG emission reductions, complies with the monitoring methodology, has appropriately conducted local and global stakeholder consultation processes and has calculated emission reductions estimates correctly and conservatively.</p> <p><input checked="" type="checkbox"/> The Project Activity is likely to generate GHG emission reductions amounting to the estimated 23,011 TCO_{2e}, as indicated in the PSF, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable GCC rules, including ISO 14064-2 and ISO 14064-3.</p> <p><input checked="" type="checkbox"/> The Project Activity is not likely to cause any net-harm to the environment and/or society and complies with the Environmental and Social Safeguards Standard, and is likely to achieve the following labels:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Environmental No-net-harm Label (E*) <input checked="" type="checkbox"/> Social No-net-harm Label (S*) <p><input checked="" type="checkbox"/> The Project Activity is likely to contribute to the achievement of United Nations Sustainability Development Goals (SDGs), complies with the Project Sustainability Standard, and contributes to achieving a total of 4 SDGs, with the following⁴ SDG certification label (SDG*):</p> <ul style="list-style-type: none"> <input type="checkbox"/> Bronze SDG Label <input type="checkbox"/> Silver SDG Label <input checked="" type="checkbox"/> Gold SDG Label <input type="checkbox"/> Platinum SDG Label <input type="checkbox"/> Diamond SDG Label <p><input checked="" type="checkbox"/> The Project Activity complies with all the applicable GCC rules⁵ and therefore recommends GCC Program to register the Project activity with above mentioned labels.</p> <p>The Project Activity complies with all the applicable requirement of the GCC Program and ICAO’s requirements on CORSIA Emissions Unit Eligibility Criteria and CORSIA Eligible Emissions Units, as per Clarification No 1., v1.2 paragraph 21-23, and the ACCs expected to be issued during the crediting period is likely to be CORSIA eligible and can be used by International Airlines for offsetting their emissions during all phases of CORSIA and therefore request GCC Steering Committee to append CORSIA Certification label (C+) to this project.; However, Host country Attestation (HCLOA) on Double Counting required by CORSIA will provide during the Emission Reduction verification.</p>
<p>Project Verification Report, reference number and date of approval</p>	<p>Reference number: GCC.PVR.21.31</p> <p>Date of approval: 01/06/2022</p>

⁴ SDG Certification labels: Bronze label (1 star): by achieving 2 out of 17 SDGs; Silver label (2 star): by achieving 3 out of 17 SDGs; Gold label (3 star): by achieving 4 out of 17 SDGs; Platinum label (4 star): by achieving 5 out of 17 SDGs; and Diamond label (5 star): by achieving more than 5 out of 17 SDGs.

⁵ “GCC Rules” are defined in Project Definitions and refers to the rules and requirements set out by the GCC program related to GHG emission reductions and its voluntary certification labels and are available on the GCC Program’s public website: <https://www.globalcarboncouncil.com/resource-centre.html>

Project Verification Report

<p>Name of the authorised personnel of GCC Project Verifier and his/her signature with date</p>	 <p>Date: 01/06/2022 Name: Dr. Kaviraj Singh Managing Director</p>
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1. PROJECT VERIFICATION REPORT

A.1. Executive summary

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Brief Summary of the Project Activity

The project activity is about installation and operation of wind power plant in the Republic of Turkey by Mursal Enerji Üretimi Sanayi ve Ticaret Anonim Şirketi. The project activity consists of 6 Gamesa make wind turbine of 2.1 MWm/1.667 MWe capacity each. The project activity is a green field project where no renewable power plant was operating prior to the implementation at the project activity site. The aim of the project is to generate electricity from wind energy, which is a renewable source of energy and thus leads to generation of clean energy. The electricity generated from the project is being supplied to the Turkish national grid there by displacing the electricity which could have been generated from a carbon intensive fossil fuel-based power plant.

The project activity involves installation of 6 wind turbines having mechanical capacity of 2.1 MW, and electrical output capacity of 1.667 MWe. Thus, the total installed capacity of the project activity comes to 12.6 MWm (Mechanical) and 10 MWe of electrical output. The wind power plant is located at the inner Anatolian Region of the Sivas province, Central District of Turkey. The project activity has commissioned on 01/10/2016^{/20/} and shall generate approximately 23,011 tCO_{2e} per year during the crediting period of 10 years.

The legal ownership of all the WTGs of project activity is with Mursal Enerji Üretimi Sanayi ve Ticaret Anonim Şirketi.

Location:

All 6 WTGs of project activity are located at the inner Anatolian Region of the Tokat province, Central District of Turkey. The geo co-ordinates for each WTG machines are as below.

Wind Turbine	Latitude	Longitude
T1	DMS: 39°56'12.1"N DD: 39.9366	DMS: 36°58'55.1"E DD: 36.9819
T2	DMS: 39°56'15.5"N DD: 39.9376	DMS: 36°59'08.6"E DD: 36.9857
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T5	DMS: 39°56'35.5"N DD: 39.9431	DMS: 36°59'59.7"E DD: 36.9999
T6	DMS: 39°56'41.9"N DD: 39.9449	DMS: 37°00'14.9"E DD: 37.0041

Scope of Verification

The scope of the services provided by Earthood Services Private Limited for the project is to perform Project Verification service of concerned GCC Project Activity and implemented safeguards aimed to achieve environmental and social impacts without causing any net harm.

The contribution of the project activity towards the United Nations Sustainable Development Goals are also verified. The compliance for the project activity related to CORSIA requirement for C+ label is also checked as a part of scope. The scope of verification is to assess the claims and assumptions made in the Project Submission Form (PSF) against the GCC criteria, including but not limited to, GCC PS, GCC VS, applied CDM methodology, ICAO-CORSIA requirements for GCC projects and other relevant rules and requirements established under Program process.

Verification Process and Methodology

The verification process was undertaken by a competent verification team and involved the following,

- the desk review of documents and evidence submitted by the project owner in context of the reference rules and guidelines issued by GCC,
- undertaking/conducting remote site visit, interview or interactions with the representative of the project owners/representatives,
- reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate and
- preparing a draft verification opinion based on the auditing findings and conclusions
- technical review of the draft verification opinion along with other documents as appropriate by an independent competent technical review team
- finalization of the verification opinion (this report)

Conclusion

The review of the PSF^{/2/}, supporting documentation and subsequent follow-up actions (remote - site audit and interviews)^{/17/} have provided ESPL with sufficient evidence to determine the fulfilment of stated criteria. The ESPL is of the opinion that the project activity “Karaçayır Wind Power Project” as described in the final PSF, version 06^{/2/} meets all relevant requirements of GCC and have correctly applied the CDM methodology AMS-I.D.: Grid connected renewable electricity generation --- Version 18.0^{/6/}. During the crediting period, the project activity shall achieve the emission reduction which are real and additional. The project activity has also fulfilled all the requirements related to Environmental Safeguards (E+ label), Social Safeguards (S+ label) and has forecasted to contribute to 4 UN SDGs. The project activity complies with all the applicable requirement of the GCC Program and ICAO’s requirements on CORSIA Emissions Unit Eligibility Criteria and CORSIA Eligible Emissions Units, as per Clarification No 1., v1.2 paragraph 21-23, and the ACCs expected to be issued during the crediting period is likely to be CORSIA eligible and can be used by International Airlines for offsetting their emissions during all phases of CORSIA and therefore request GCC Steering Committee to append CORSIA Certification label (C+) to this project.; However, Host country Attestation (HCLOA) on Double Counting required by CORSIA will provide during the Emission Reduction verification. Therefore, the project is being recommended to GCC Steering Committee for request for registration.

A.2. Project Verification team, technical reviewer and approver

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A.3. Project Verification team

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of GCC Project Verifier or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Project Verification findings
1.	Team Leader	IR	Raval	Harsh	Central Office	Y	N	Y	Y
2.	Technical Expert (TA1.2), Methodology Expert	IR	Raval	Harsh	Central Office	Y	N	Y	Y
3.	Local Expert (Turkey)	ER	Atabek	Fikriye Seda	External Resource	Y	N	Y	Y
4.	Financial Expert	IR	Gautam	Ashok Kumar	Central Office	Y	N	N	Y
5.	Trainee	IR	Chawla	Muskan	Central Office	Y	N	N	Y

A.4. Technical reviewer and approver of the Project Verification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g., name of central or other office of GCC Project Verifier or outsourced entity)
1.	Technical reviewer and TA expert (TA1.2)	IR	Garg	Shreya	Central Office
2.	Approver	IR	Singh	Kaviraj	Central Office

A.5. Means of Project Verification

A.6. Desk/document review

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The verification was performed primarily as a document review of the initial PSF^{1/} and revised/final PSF^{2/}. The verification of information provided in the PSF was performed using the source of information provided by the project owner. Additionally, the cross checks were performed for information provided in the PSF using information from sources other than the verification sources, the verification team's sectoral or local expertise and, if necessary, independent background investigations.

A.7. On-site inspection

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
-	-	-	-	-

The estimated annual average of ERs for the project activity is in the final PSF is 23,011 tCO_{2e} and ERs in the initial webhosted PSF were 20,497 tCO_{2e} which are below 100,000 tCO_{2e}. Further, after the review of project information through document review, it was concluded by the assessment team that there is no pre-project information that is relevant to the requirements for registration of the project activity and may not be traceable after the registration since the project is already operational since 01/10/2016. Thus, in accordance with GCC Verification standard – paragraph 29^{/13/}, a site visit was not deemed mandatory for the verification by the assessment team and alternate methods for verification were chosen.

The team adopted alternative means in order to assure that all project information is in accordance with PSF^{/2/} and undertook independent checks and validation through different sources.

The verification team applied standard auditing techniques while verifying the project details, as discussed below.

Alternative means applied:

Assessment Criteria	Means of Verification / Source Document	Assessment Opinion
Description of Project Activity <ul style="list-style-type: none"> - Technical specification / capacity - Location - Implementation status 	Remote audit and Interviews conducted for the verification of project activity details ^{/17/} Connection Agreement with grid ^{/27/} Regulatory license for the project activity ^{/23/} Energy yield assessment report ^{/22/}	The technical specification of the project activity is checked with Project yield assessment report ^{/22/} and the agreement with WTG supplier ^{/29/} . The implementation status, location, capacity and other details provided in the PSF are checked with the regulatory license issued by T.R. Energy Market Regulatory Authority and grid connection agreement with Camlibel Elektrik Dagitim AS. Further these details are cross verified by interview with the site-in charge as well as project owner representative
Baseline and application of baseline methodology and Calculation of estimated ER	Grid Emission factor datasheet ^{/19/} Project and energy yield assessment report ^{/22/}	The base selection and the grid emission factor are verified by the official data published for the Turkish Grid. The estimated generation from the project activity is checked with the technical yield assessment report
Legal and Environmental compliance	EIA Exception approval ^{/21/} Grid connection Agreement ^{/27/}	The EIA exemption and legal compliance checked. The project activity would not be able to get the grid connection or the EIA exemption for the project activity, if it is not legally or environmentally compliant to the local regulations

Local Stakeholders consultations	Interview with local stakeholders of both sites during remote audit ^{17/} Local stakeholder consultation supporting documents ^{25/26/}	The dissemination of information, Invitation for comments, comments received and consideration of these comments and appropriate actions have been checked.
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A.8. Interviews

No.	Interview			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Demirtas	Ogulcand		29/12/2021	Baseline identification Project boundary, additionality, ER calculation, E+, S+ labels, SDG+, LSC etc	Harsh Raval Fikriye Seda Atabek
2	Özcan	İnci Hazal	Project Consultant, Life Energy	29/12/2021 and Continuous through till findings closer		
2	Sarıkaya	Mustafa	-Plant Manager, Wind power project site	29/12/2021	Technical specification, project operation and implementation, Monitoring aspects	Harsh Raval Fikriye Seda Atabek
3	Kaçar	Ibrahim	Çeltek Villa ge Head Local Stakeholder	29/12/2021	Local Stakeholders Consultation process,	Harsh Raval Fikriye Seda Atabek
4	Şimşek	Yavuz	Karaçayır Village Head Local Stakeholder	29/12/2021	Employment generation, training during employment Positive /negative aspects of project (their point of view), Environmental and social impacts of project and contribution to sustainable development	Harsh Raval Fikriye Seda Atabek

A.9. Sampling approach

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No Sampling has been applied for the project activity.

A.10. Clarification request (CLs), corrective action request (CARs) and forward action request (FARs) raised

Areas of Project Verification findings	Applicable to Project Types	No. of CL	No. of CAR	No. of FAR
Green House Gas (GHG)				
Identification and Eligibility of project type	A ₁ , A ₂ , B ₁ , B ₂	CL#01	-	-
General description of project activity	A ₁ , A ₂ , B ₁ , B ₂	CL#01	-	-
Application and selection of methodologies and standardized baselines	A ₁ , A ₂ , B ₁ , B ₂		-	-
- Application of methodologies and standardized baselines	A ₁ , A ₂ , B ₁ , B ₂	CL#01	-	-
- Deviation from methodology and/or methodological tool	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
- Clarification on applicability of methodology, tool and/or standardized baseline	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
- Project boundary, sources and GHGs	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
- Baseline scenario	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
- Demonstration of additionality including the Legal Requirements test	A ₁ , A ₂ , B ₁ , B ₂	CL#02 CL#03	-	-
- Estimation of emission reductions or net anthropogenic removals	A ₁ , A ₂ , B ₁ , B ₂	CL#04		-
- Monitoring plan	A ₁ , A ₂ , B ₁ , B ₂	-		-
Start date, crediting period and duration	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
Environmental impacts	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
Local stakeholder consultation	A ₁ , A ₂ , B ₁	CL#06	-	-
Approval & Authorization- Host Country Clearance	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
Project Owner- Identification and communication	A ₁ , A ₂ , B ₁ , B ₂		-	-
Global stakeholder consultation	A ₁ , A ₂ , B ₁	-	-	-
Others (please specify)	A ₁ , A ₂ , B ₁ , B ₂	-	-	-
VOLUNTARY CERTIFICATION LABELS				
Environmental Safeguards (E ⁺)	A ₁ , A ₂ , B ₁	CL#05	CAR#07	-
Social Safeguards (S ⁺)	A ₁ , A ₂ , B ₁	CL#05	CAR#07	-
Sustainable development Goals (SDG ⁺)	A ₁ , A ₂ , B ₁		CAR#07	-
Authorization on Double Counting from Host Country (only for CORSIA)	A ₁ , A ₂ , B ₁	-	-	-
CORSIA Eligibility (C ⁺)		-	-	-
Total		06	01	--

A.11. Project Verification findings

A.12. Identification and eligibility of project type

<p>Means of Project Verification</p>	<p>The project activity is correctly identified as A2 category in the PSF^{/2/}. The provisional acceptance certificates^{/20/} (which acts as a commissioning certificates) issued by Ministry of Energy and Natural Resources, in Turkey are checked. It is confirmed that the commissioning of all project activity WTGs was completed on 01/10/2016. WTGs identified as T1, T2, T3 and T4 were commissioned on 08/09/2016 and T5 and T6 on 01/10/2016. Thus, the project activity has fully commissioned 01/10/2016 which is after 01/01/2016.</p> <p>The project activity is not registered under any other GHG program. This has been confirmed through declaration provided by Project Owner in the PSF^{/2/} and verified through search in relevant publicly available data for other registries like Gold Standard and Verra. It is also confirmed by the project owner that it shall also not apply to any other program or registry either once registered with GCC and it is not registered with any other program.</p> <p>Thus, the project activity is confirmed to be eligible as Type A2 – Sub Type 1 under GCC program which covers project activities already commissioned/operational after 01/01/2016 but not registered with any other programs.</p> <p>The project activity also complies with the relevant GCC eligibility requirements as per Para 14 (c) of the Project Standard, version 03.1^{/12/}. This compliance is discussed under relevant sections for this report.</p> <p>Being a Type A activity, following specific criteria are checked for the project activity as per Para 16 of Project Standard and confirmed that</p> <ol style="list-style-type: none"> 1. The project activity is not required by a legal mandate, and it does not implement a legally enforced mandate also the project activity complies with all the applicable host country legal requirements. This is confirmed through EIA exemption decision^{/21/} provided to the project activity as well system connection Agreement^{/27/} provided to the project activity. 2. The project activity delivers real, measurable, and additional emission reduction of 23,011 tCO_{2e} annually (average value over the crediting period) as compared to the baseline scenario. 3. Project applies an approved CDM monitoring and baseline methodology AMS-I.D. version 18.0^{/6/}.
<p>Findings</p>	<p>Issue in CL#01 was raised for clarification on the non-participation in any other GHG scheme. It was closed subsequently.</p>
<p>Conclusion</p>	<p>The project activity is found eligible as per the requirements under section 4 and section 5 of the GCC Project Standard^{/12/}.</p>

A.13. General description of project activity

Means of Project Verification	Project description:
	<p>The project activity is about the generation of renewable energy from 12.6 MWm (10 Mwe) wind power turbines in Turkey. The project activity consists of 6 Nos of wind turbines having capacity of 2.1 Mwe each. The electricity generated by the project activity is exported to the Turkish Nation Grid. The project activity has been fully commissioned since 01/10/2016 and is currently in operation.</p> <p>The project activity is approved by T.R. Energy Market Regulatory Authority and implemented by project activity with total capacity and thus it can be concluded the complete commercial operation of the project activity has started on 01/10/2016.</p> <p>These details of the PSF^{/2/} have been checked from Provisional Acceptance certificate^{/20/} issued by Ministry of Energy and Natural Resources for project activity WTGs and grid connection agreement^{/27/} signed with Camlibel Elektrik Dagitim AS. . In Turkey there is only one national grid and thus it can be confirmed that all 6 WTGs are connected to the same grid.</p> <p>The Project is a greenfield project which is confirmed through purchase agreements^{/29/31/} for the project activity WTGs signed with Gamesa Eolica S.L. and verified through the Generation licence issued by Energy Market Regulatory Authority of Turkish Republic^{/23/} for the project. Since, the project activity is grid connected generation, in the absence of activity same electricity would have been produced from the fossil intensive Turkish grid.</p> <p>It was also verified during the remote audit^{/17/} and meter installation photos and records^{/34/} that all the WTGs are connected to the grid through one common substation or electricity evacuation station.</p> <p>The assessment team has also checked the photographs of the project site and equipment installations as provided by the project owner and is found appropriate in line with details provided in the PSF^{/2/}.</p> <p>Legal Ownership:</p> <p>Turkey has a system of Licensed and unlicensed power projects^{/41//17/}, where licensed power projects need to apply and get the generation license from the government for establishment and can use the preferential tariff issued for renewable projects.</p> <p>The legal ownership of the project activity is with Mursal Enerji Üretimi Sanayi ve Ticaret Anonim Şirketi. This has been checked with the generation license^{/23/} issued by Energy Market Regulatory Authority of Turkish Republic for the project activity, where legal ownership of the project activity installations is confirmed.</p> <p>The legal owner is also identified as the project owner in the PSF. The name of owner is also found to be consistent with the details provided as project owner in PSF^{/2/} and letter of authorization^{/5/} and is found appropriate.</p> <p>Location:</p> <p>The project activity is located at Anatolian Region of Sivas province in Central District of Turkey. The geo-coordinates for each project activity WTG are as below.</p>

Wind Turbine	Latitude	Longitude
T1	DMS: 39°56'12.1"N DD: 39.9366	DMS: 36°58'55.1"E DD: 36.9819
T2	DMS: 39°56'15.5"N DD: 39.9376	DMS: 36°59'08.6"E DD: 36.9857
T3	DMS:39°56'18.7"N DD: 39.9385	DMS: 36°59'21.9"E DD: 36.9894
T4	DMS: 39°56'28.3"N DD: 39.9411	DMS: 36°59'47.6"E DD: 36.9965
T5	DMS: 39°56'35.5"N DD: 39.9431	DMS: 36°59'59.7"E DD: 36.9999
T6	DMS: 39°56'41.9"N DD: 39.9449	DMS: 37°00'14.9"E DD: 37.0041

Latitude and Longitude of the physical site for the project activity has been included appropriately in the PSF^{2/} and checked through the imaginary available on Google Earth^{35/}.

The physical locations as mentioned in the PSF are also verified with the locations provided by the local authority^{30/} and is found appropriate.

Technical Details:

The project activity has installed 6 identical wind turbines of the same capacity. The WTGs are Gamesa make G-114 turbines having mechanical capacity of 2.1 MWm and electrical output capacity of 1.667 Mwe. Each turbine is connected to the grid through an electricity evaluation station of the grid company.

The technical specifications of the WTGs as provided in the PSF is verified through project and yield assessment report^{22/}, which is a 3rd party report on analysing and reviewing every technical aspect of the project and also on-site installation photographs^{34/} as provided by the project owner. The WTG purchase agreement^{29/} is also checked for the details and found consistent.

The other components of the power plant like switchyard, transformers, main control room were discussed during the remote audit of the site and interviews with the site in charge^{17/}.

Further, the generation licence issued to the project owner is also checked^{23/}. The licence specifically mentions the installed capacity and electricity generation capacity from the project activity as 12.6 MWm (10 MWe). The project owner is not authorized to generate any higher amount of electricity than issued in the license.

The project activity is connected to the national grid through agreement with Camlibel Elektrik Dagitim AS (Grid company)^{27/}. The agreement also mentions the export/generation capacity limit for the project activity as 10 MW.

The project owner has considered the operational lifetime of the project activity as 25 years as per the CDM Tool 10: Tool to determine the remaining lifetime of equipment, version 01^{10/} as is found appropriate. The project activity has a fixed crediting period of 10 years which is in accordance with the GCC program manual and will generate an estimate 23,011 tCO_{2e} emission reduction annually.

Sampling Approach:

No sampling approach has been required or applied for the project verification.

De-bundling Requirement:

	<p>Para 30 GCC Clarification No. 1, version 1.2, requires that small scale project activities are to be assessed as per CDM Tool 20: Assessment of debundling for small-scale project activities. It has been checked and confirmed through interviews with project owner and searching by publicly available information that the project owners/legal owner does not have any other small-scale project activity of same project category and technology/measure registered or under validation within 1 km of the project boundary of the current project activity.</p> <p>Further, the generation license of the current project activity has been checked and it was confirmed that it is approved and envisaged as the single project 12.6 MWm / 10 MWe WTG installation.</p> <p>Thus, it was concluded that proposed GCC project activity is not a part of de-bundled large-scale project.</p> <p>Other Labels:</p> <p>In addition to GHG emission reductions, the project activity has applied and qualifies below for other voluntary certification labels in accordance with the GCC requirements</p> <table border="1" data-bbox="598 884 1401 1131"> <thead> <tr> <th>Voluntary Labels</th> <th>Applied by the project</th> </tr> </thead> <tbody> <tr> <td>UN Sustainable development goals (SDG+)</td> <td>Yes The project activity has applied and complies with 4 out of total 17 SDG; Gold</td> </tr> <tr> <td>Environmental No-net harm (E+)</td> <td>Yes, Score – 6</td> </tr> <tr> <td>Social No-net harm (S+)</td> <td>Yes, Score – 4</td> </tr> </tbody> </table> <p>CORSIA:</p> <p>The project activity has applied for the CORSIA compliance. The requirements for the same with respect to the scope of project verification have been checked and found appropriate in accordance with Para 21, GCC Clarification -1, version 1.2 and Para 16, Standard on Avoidance of Double Counting, version 1.0.</p> <p>Final compliance with respect to CORSIA (C+ label) will only be checked and confirmed at the Emission Reduction Verification stage. The project owner has confirmed in the PSF that host country approval on double counting HCLOA shall be provided at the emission reduction verification stage. The compliance is discussed in detailed under section D.14 of this report.</p> <p>The description in the PSF^{2/} includes sufficient details and provides clarity about the project activity. The verification team also checked the GCC website and performed secondary independent research on publicly available data to determine if the project was part of any other GHG Programs prior to commencement of this verification. It was confirmed that the involved project owners have not submitted the project under any other GHG program apart from GCC.</p>	Voluntary Labels	Applied by the project	UN Sustainable development goals (SDG+)	Yes The project activity has applied and complies with 4 out of total 17 SDG; Gold	Environmental No-net harm (E+)	Yes, Score – 6	Social No-net harm (S+)	Yes, Score – 4
Voluntary Labels	Applied by the project								
UN Sustainable development goals (SDG+)	Yes The project activity has applied and complies with 4 out of total 17 SDG; Gold								
Environmental No-net harm (E+)	Yes, Score – 6								
Social No-net harm (S+)	Yes, Score – 4								
Findings	CL#01 was raised related to ownership, coordinates and description requirement. Same was resolved sufficiently.								
Conclusion	The project verification was based on review of the key documents such as provisional acceptance and system connection agreements, technical evaluation reports and legal approvals. The project description as contained in the final PSF was found accurate and complete.								

A.14. Application and selection of methodologies and standardized baselines

A.14.1 Application of methodology and standardized baselines

Means of Project Verification	<p>The project activity has applied the approved CDM baseline and monitoring methodology AMS-I.D.: Grid connected renewable electricity generation, version 18^{6/}.</p> <p>The project activity is a small-scale project activity, having total installed capacity less than 15 MW. Further, as per the UNFCCC webpage for AMS-I.D the version 18 is the latest available and applicable version for the methodology. Thus, it is confirmed that project activity can apply the approved small scale methodology AMS I.D., version 18.</p> <p>Para 4 to Para 11 of the applied methodology discusses the eligibility criteria of the methodology and they are checked as below.</p>	
	AMS-I.D. Version 18	
	Applicability criterion	Assessment
	<p>1. Para 4 of the applied methodology: This methodology is applicable to project activities that:</p> <p>(a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s).</p>	<p>The project activity is a grid connected green field wind power plant; the applicability criterion is met. Purchase orders^{/29/31/} and grid connection agreements^{/27/} of project activity was checked to confirm that the project is a greenfield project.</p>
	<p>2. Para 5 of the applied methodology: Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <p>(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.</p>	<p>This is not applicable to the project activity since project activity is a wind energy based renewable energy generation and is not related to Hydro energy.</p>
<p>3. Para 6 of the applied methodology: 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.</p>	<p>The criterion is not applicable as project activity has only renewable component.</p>	
<p>4. Para 7 of the applied methodology: Combined heat and power (co-generation)</p>	<p>The criterion is not applicable as the</p>	

	systems are not eligible under this category.	project activity is a green field project which involves only the renewable component.
	<p>5. Para 8 of the applied methodology: 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 distinct¹ from the existing units.</p>	The criterion is not applicable as the project activity is a green field project which involves electricity generation through the wind energy only.
	<p>6. Para 9 of the applied methodology: 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.</p>	The project activity does not involve retrofit, rehabilitation or replacement
	<p>7. Para 10 of the applied methodology: 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 prescribed under 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.</p>	The criterion is not applicable as the project activity is a green field project which involves electricity generation through the Wind energy.
	<p>8. Para 11 of the applied methodology: In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.</p>	The criterion is not applicable as the project activity is a green field project which involves electricity generation through the wind energy only.
	Tool 07: Tool to calculate the emission factor for an electricity system, version 07^{7/1}	
	Applicability criterion	Assessment
	<p>1. Para 3 of the applied Tool: 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).</p>	This project involves generation electricity through wind energy power plant where generated electricity is delivered to the grid. Thus, the applicability criteria are found to be met.
	<p>2. Para 4 of the applied Tool: 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-</p>	The project activity has chosen the option to calculate the emission factor for grid power plants only. The point

	<p>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.</p>	<p>has been assessed in detail under section D.3.4 of the report. The criteria are found to be met.</p>
	<p>3. Para 5 of the applied tool: 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.</p>	<p>The project is applying registration under GCC Program which is a Middle East & North Africa (MENA) region’s first voluntary carbon offsetting program. The Program permits the application of the CDM methodologies and tools however is applicable to all geographical locations. Hence the project which is located in Turkey an Annex I country is permitted to use the tool.</p>
	<p>4. Para 6 of the applied Tool: Under this tool, the value applied to the CO₂ emission factor of biofuels is zero</p>	<p>There are no biofuel power plants in the Host country, hence the condition is not applicable.</p>
	<p>In addition to above, the project owner has also used/referred to following tools, which are also found to be applicable and correctly applied/referred.</p> <p>Tool 21: Demonstration of additionality of small-scale project activities, version 13.1 Tool 27: Investment Analysis, version 11</p>	
<p>Findings</p>	<p>Issue in CL#01 was raised as initial PSF incorrectly mentioned that project activity will supply electricity to grid as well as to third parties. The CL was later on closed successfully as Project owner recognized the error and revised the description in the PSF.</p>	
<p>Conclusion</p>	<p>The verification team confirms that; It has critically assessed each applicability condition listed in the selected methodology and the relevant information contained in the PSF against these criteria. The selected CDM methodology for the project activity is applicable. The selected version of the methodology is valid at the time of submission of the proposed GCC project activity for registration.</p>	

A.14.2 Clarification on applicability of methodology, tool and/or standardized baseline

Means of Project Verification	Since the applicability of methodology was found to be fulfilled, further clarification to the methodology were not required.
Findings	No finding was raised.
Conclusion	The verification team confirms that; It has critically assessed each applicability condition listed in the selected methodology/tools and the relevant information contained in the PSF against these criteria.

A.14.3 Project boundary, sources and GHGs

Means of Project Verification	<p>As per the applied methodology AMS-I.D version 18.0, the spatial extent of the project boundary includes the project power plant/unit and all power plants/units connected physically to the electricity system that the project power plant is connected to. The components of the project boundary mentioned in the PSF^{F/2/} were found to be in compliance with para 18 of the applied methodology.</p> <p>The assessment team has conducted desk review of the implemented project to confirm the appropriateness of the project boundary identified. The project activity is a wind energy based which is exported to the Turkish National Grid. Thus, the project activity WTGs, monitoring installation, substations and all the power plants connected to the Turkish National Grid are correctly identified and included in the project boundary by the project owner.</p> <p>The assessment team have also checked and confirmed that all GHG sources required by the methodology have been included within the project boundary.</p> <p>It was assessed that no emission sources related to project activity will cause any deviation from the applicability of the methodology or accuracy of the emission reductions.</p> <p>The project boundary is clearly depicted with the help of a line diagram in section B.3 of the PSF^{F/2/} and duly verified by the assessment team</p>
Findings	No findings
Conclusion	<ul style="list-style-type: none"> • The verification team was able to assess that complete information regarding the project boundary has been provided in PSF^{F/2/} and could be assured from the line diagram. • The verification team confirms that the identified boundary, selected emissions sources are justified for the project activity. • It could be confirmed that there are no emissions expected due to implementation of the project activity, contributing more than 1% of the overall expected average annual emission reductions, which are not addressed by the applied methodology.

A.14.4 Baseline scenario

Means of Project Verification	As per the para 19 of the applied methodology AMS-I.D. Version 18.0 the baseline scenario for all greenfield projects is defined as “The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.”
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	<p>It has been verified and discussed in other sections of this report that the project activity is a grid connected green field wind power generation. The project activity is connected to the Turkish National Grid. It is also checked and confirmed that there is only one national grid in Turkey^{19/}.</p> <p>The project owner has demonstrated in the PSF through data published by the Turkish Electricity Transmission company that the energy demand in Turkey is increasing since last decade it is expected to continue over the period of time. The priory source of energy is fossil-fuel base plant. If the project activity power plants are not established, the same amount of electricity would be generated through existing and newly build power plants. The details of energy pattern generation data are checked with the data sources referenced in the PSF and are found to be correct and authentic as published by Turkish government.</p> <p>Thus, the baseline scenario for the project activity is generation of same amount of electricity through operation of existing power plant connected to the Turkish national grid as well as installation of the new power plants in the Turkish national Grid. This baseline scenario is correctly identified by the project owner in the PSF^{2/}.</p> <p>The proportion of the generation through operational power plants and newly build power plants can be addressed by determining the combine margin of the grid in accordance with CDM Tool 7, version 7^{7/}. The project owner has demonstrated the same approach and is verification of it is discussed in relevant section of this report.</p> <p>Thus, it can be concluded that the baseline scenario in the PSF is reported as the supply of electricity to grid and thereby displacement of electricity from the electricity distribution system connected to the national grid. The baseline scenario applied in the PSF was compared with the requirements of the baseline described in the applied methodology and found consistent.</p>
Findings	No finding was raised related to identification of baseline scenario
Conclusion	<p>The verification team confirms the following;</p> <ul style="list-style-type: none"> • All assumptions and data used by the project participants are listed in the PSF, including their references and sources; • All documentation used by project participants as the basis for assumptions and source of data for establishing the baseline scenario is correctly quoted and interpreted in the PSF; <p>The verification team also concluded that the identified baseline scenario reasonably represents what would occur in the absence of the project activity in accordance with the applied baseline methodology.</p>

A.14.5 Demonstration of additionality

<p>Means of Project Verification</p>	<p>For demonstrating additionality under GCC the project activity is required to undergo the following two tests^{/12/}</p> <p>a) Legal Requirement Test:</p> <p>As per Para 45, of Project standard, version 03.1, Type A activity are required to pass the legal requirement test and the additionality /Positive Technology test.</p> <p>For Legal requirement - Type A projects need to demonstrate that their implementation is not required or mandatory by a law that is enforced.</p> <p>The Legal requirement test has been demonstrated in section B.5 of the PSF and verified by the assessment. It is confirmed that there are no enforced laws, statutes, regulations, court orders, environmental-mitigation agreements, permitting conditions or other legally binding mandates requiring its implementation, or requiring the implementation of a similar technology/measure that would achieve equivalent levels of GHG emission reductions.</p> <p>The assessment team assessed the relevant regulations to confirm that the project meets the legal requirement test:</p> <ul style="list-style-type: none"> • Electricity Market Law number 4628^{/36/} • Law on utilization of renewable Energy resources for the purpose of Generating electricity Energy^{/37/} • Energy efficiency Law^{/38/} • Forest Law number^{/39/} • Environment Law^{/40/} • EIA exemption as issued to the project activity^{/21/} <p>In addition to the evidence assessment, a local expert, having as vast experience of climate change auditing and relevant guidelines for renewable projects in the host country is part of the assessment team. It is confirmed from local expert that the project is not required to be implemented to meet any legal requirement.</p> <p>Thus, it is confirmed from above assessment that there are no mandatory legal requirements for project owner to establish the wind power plants in Turkey.</p> <p>The Assessment team has also interviewed^{/17/} the project owner representative and it is declared/confirmed by them that they do not have any legal mandate to implement the project activity.</p> <p>b) Additionality Test:</p> <p>As per the applied methodology AMS-I.D. Version 18.0^{/6/}, additionality of the following project activity is demonstrated and assessed by the latest version of Tool 21: Demonstration of additionality of small-scale project activities” Version 13.0^{/8/}</p> <p>The project owner has chosen to demonstrate the additionally by means of Investment barrier in accordance with the Tool 21^{/8/}.</p> <p>Since, the Investment barrier is chosen, in accordance with para 50 of GCC Project Standard an investment analysis is demonstrated in the PSF and verified by the assessment team in accordance with the latest version of Tool 27: Investment Analysis^{/9/}.</p> <p>Investment analysis:</p>
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The demonstrate the investment barrier, the project owner needs to demonstrate that investment in the project activity is not financially attractive to them by means of investment analysis.

Completeness of Information:

The project owner has provided complete information to the assessment team regarding the project activity. However, information regarding the project specific financial parameters (i.e., project cost/O&M cost) are considered strictly confidential by project owner. Thus, the project owner has provided two copies of IRR sheets with public and confidential versions and avoided mentioning these costs in the PSF. All necessary information for assessment point of view for verifiers was made available and GCC team in accordance with the GCC Program Framework, the same is accepted as deemed complete by assessment team. PSF along with confidential version of IRR sheet is reviewed for assessment of investment analysis for validation.

Determine appropriate analysis method: Benchmark Analysis

For demonstration of the investment analysis, latest version CDM Tool 01-Tool for the demonstration and assessment of additionality, is also referred as it provides step-by-step guidance for demonstration.

The additionality of the project is demonstrated by the project owner and assessed by the team as per Tool 21 only. Tool 1 is referred to take guidance/step for demonstration as it is not provided in detailed in Tool 21.

As per the CDM Tool – 01, the investment analysis can be demonstrated by three analysis methods.

- i) Simple Cost Analysis
- ii) Investment Comparison Analysis
- iii) Benchmark Analysis

Since the Project activity generates economic benefits from sales of electricity, the simple cost analysis is not applicable, and Benchmark Analysis has been selected by the project owner as baseline to the project activity is electricity generation in the grid. This is in accordance with the Para 32 of Tool 01 and thus accepted by the assessment team.

Investment Decision Period:

The consistency and appropriateness of the input values in financial analysis and selection of benchmark are assessed with respect to the project investment decision timing. The Project Owner has stated that the date of the turbine agreement is considered as investment decision date for the project.

This consideration is validated by review of the process involved in investment and commissioning of the licenced renewable power projects in Turkey. The ‘Energy Sector Investment Processes Guide’^{41/} published by Presidency of the Republic of Turkey Investment Office was studied and also relevant stake holders of the project were interviewed^{17/} to understand the process. It was learnt that all major renewable power projects having capacity more than 1 MW have to take regulatory licence from the authority for establishment of renewable power plants and in order to be applicable to the decided feed-in tariff.

For renewable energy projects specifically like Solar or Wind, the project investors first need to obtain apply and obtain the EIA exemption for any project establishment. After EIA exemption, the project investors can apply for generation license and have to wait for some time (pre-license period) till they are issued full generation license. The project investors cannot move ahead or construct the plants without generation license or system connection (grid) agreement.

	<p>Once, licence, EIA exemption or decision and connection (grid) agreement are done, the project investors have to establish the plant in the specified time period of the generation license. The license can be cancelled also if timeline is not met.</p> <p>So, obtaining licence, EIA or connection agreement can be considered as the pre-project activity actions and does not ensure guaranteed investment actions towards the project activity as the project owners may not be able to start the project if approval is not received and have also an option of not to go ahead for the project implementation.</p> <p>After receiving licence and approvals, the project owner of the current project activity has chosen to proceed for the implementation of the project activity with the financial analysis based on input values available at that time by signing a supply and erection agreement with Gamesa Eolica S.L. for project activity WTGs as on 03/07/2015. Thus, this can be considered as the first major financial commitment towards the project implementation by the Project Owner after doing financial due diligence.</p> <p>Thus, time horizon of 03/07/2015 is considered by the project owner as investment decision period and verified and accepted by the assessment team as it was the first financial expenditure by the project owner towards the actual on-ground implementation and construction of the project activity.</p> <p>The appropriateness, availability, consistency, and reliability of all the input values and benchmark are validated with respect to this date by the assessment as prior to this date project owner had option of not to proceed with project activity construction.</p> <p>The project owner has provided Energy Sector Investment Processes Guide^{/41/} published by Presidency of the Republic of Turkey Investment Office and the mentioned investment process is verified from the same by the assessment team and further confirmed with Local expert involved in the assessment.</p> <p>Currency Exchange rate: for analysis, wherever required, Project owner has used the exchange rates between Turkish Lira – Euro and USD due to variation actual input values in form of currency. i.e. the project cost and O&M cost is mentioned in Euro in agreement. Tariff rate is referred in USD for first 10 years in tariff order also in Turkish Lira for after 10 years in spot prices. So, exchange rates are considered of the date of investment decision period (i.e. 03/07/2016) and consistently applied and thus accepted.</p> <p><u>Selection of Benchmark: 15%</u></p> <p>The project activity is a renewable energy based commercial investment. So, the project owner has chosen expected return from the investment in renewable energy projects in Turkey. The benchmark is chosen from the report issued by EBRD (European Bank for Reconstruction and Development) Evaluation Department^{/32/}. The EBRD has evaluated the performance of the Bank’s completed projects and programmes through MidSize Sustainable Energy Financing Facility (MidSEFF). The financing was done for renewable energy projects (hydropower, wind, geothermal, waste to energy, and energy efficiency) for which the average pre-tax IRR was determined at 15% (Table 6, on page 27).</p> <p>The EBRD report is dated April 2015 and is of the time horizon of the project activity investment decision and based on the actual project investment data of renewable projects in Turkey.</p> <p>From, EBRD report it was not clear if the mentioned IRR for expected returns was calculated as pre-tax or considering tax. A clarification was sought by project owner from one of the contributors of report and it was confirmed to be pre-tax IRR^{/42/}. The project owner has envisaged the project as 100% equity finance project and there is no debt part considered. So, equity and project IRR would be same and comparable with any equity/project benchmark.</p>
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Since the project owner has used the terminology as 'Project IRR', IRR/benchmark is referred as IRR / project IRR in the report to maintain consistency as in the current project, it does not make any difference.

The Benchmark is further crosschecked with figures defined by World Bank for 'Private Sector Renewable Energy and Energy Efficiency Project' as Clean Technology Fund Loan report^{/33/}. The report mentions that on page 40 (table 3.3) a threshold pre-tax IRR on equity (=required/expected return on equity) 15% for wind power projects. This report was issued in June 2017, but it is based on the actual data of the projects operating in the year of 2016, which is the same year the current project started operation. Thus, it can be relatable to the project activity.

Further, till date there are two GCC registered renewable energy projects from Turkey – S0001 and S0002. Both projects have investment decision horizon of 2017 and uses or refers to the validated benchmark of 15% of IRR from the same EBRD report. The project activity has investment decision period in 2nd half of 2015 and commissioning in the 2nd half of 2016. Thus, it can be said relatable as having shorten time gap. Therefore, selected benchmark value was found to be appropriate for this project and representative of the Host Country Turkey.

Financial Indicator: Pre-tax IRR – 8.38%

In line with the selected benchmark, the project activity has chosen pre-tax equity IRR as the financial indicator for the investment analysis.

It should be noted that in the investment analysis^{/3/}, the project activity is proposed as an equity investment and have no debt part involved. So, there is no loan, interest or repayment part considered. In such situation, the project IRR and equity IRR would be same for the project activity and calculated IRR can be considered as Project/Equity IRR both. For consistency purpose with PSF, it is referred as project IRR throughout this report.

Thus, it can be confirmed that in line with Para 15 of tool 27^{/9/} the project owner has selected appropriate benchmark and financial indicator as comparable to each other.

Validation of Input Parameters:

- 1) Installed capacity: 12.6 MWm / 10 Mwe

The project activity has installed 6 Nos of WTGs having 2.1 MWm/1.667 Mwe capacity each. Thus, total capacity of the project is correctly considered as 12.6 MWm / 10 Mwe in the investment analysis as well as in project details and ER calculation consistently. The installed capacity has been verified from the project generation license^{/23/} and also confirmed with the grid connection agreement.

- 2) Project Cost: 15,567,568 Euro - – 1.235 million Euro/MW

The total project cost break-up consists of turbine and well as infrastructure and project development cost.

The same is validated as below.

Item	Cost (Euro)	Total % of project cost	Considered and verified from
Wind Turbine Systems	11,520,000	74%	Turbine agreement with Gamesa ^{/29/}

Electrical Infrastructure	1,401,081	9%	Assumed based on National Renewable Energy Laboratory report ^{/43/}
Engineering Management and Development	467,027	3%	
Contingency + Construction Finance	1,401,081	9%	
Site Access, Staging and Facilities	467,027	3%	
Other related costs	311,351	2%	
Total Project Cost	15,567,568		

- Turbine Cost:

It is evident that major part of the project cost consists of the Wind Turbine cost, which includes the supply and erection of all seven machine of the project activity. The WTG cost as considered have been validated from the agreement with Gamesa Eolica S.L.^{/29/} for supply for 6 Nos of WTG.

The cost considered in analysis has been checked with the agreement and is matched. The project owner has considered the agreement with turbine supplier as investment decision date and period prior to the same is validated as investment decision period. Thus, it can be confirmed that this cost was available with the project investor at the time of decision making or agreement signing.

Further, the turbine cost as considered is verified with the actual agreement from the supplier. So, there are no further chances of reduction or variation in the turbine cost as it is based in signed agreement and actual and reliable.

- Other parts of Project Cost:

The other costs considered in financial analysis includes Electrical Infrastructure installation, other engineering management and project development, Construction Finance, contingency, Site Access, Staging and Facilities. These costs comprise only 26% of the project costs and are based on the assumption from NREL report (Figure FS1, Page 6).

A report on ‘2013 – Cost of Wind Energy Review’^{/43/} published by National Renewable Energy Laboratory is referred by the project owner. NREL is national laboratory of the U.S. Department of Energy Office of Energy Efficiency & Renewable Energy Operated by the Alliance for Sustainable Energy, LLC. The report was published in the February 2015 and was latest available version at the time of investment decision. The report is based on actually data for financing wind energy projects of 2013.

The project owner has claimed that at the time of investment decision, there was no publicly available data for wind energy sector investment in Turkey and it is a practice in Turkey to assume/ consider the international sources like NREL reports for basis.

This was further checked with publicly available data and found that various validated and registered wind projects like GS4922, GS7733, GS1138, GS3411 and GS1308 envisaged over different time period in Turkey also uses the NREL data/report for project cost assumptions and calculation and argument from the project owner was found realistic.

It was also noted by assessment team that this NREL report-based assumptions only constitutes 26% part of the project cost. Rest 74% is turbine cost, which taken from the actual agreement with the supplier with no probability of variation in actual scenario. The project cost has been subjected to the sensitivity analysis and any practically possible variation in the assumed costs is covered under the sensitivity analysis as variation of

10% of total project cost is already checked. 10% variation in total project cost is approximately 38% variation in assumed 26% of other cost. Any variation beyond this part does not deem practically possible to the assessment team.

For the purpose of crosscheck, the project owner has also submitted one research paper of 2015 which considers the cost analysis lower (600 KW) rated Nordex-43 turbine. Based on simple ratio and proportion calculation the project turbine costs come conservative considering same capacity. This paper also considers same breakdown of total project cost matching with NREL report assumptions like wind turbines (70-75%), construction and installation (20-25%), project and consultation (3-4%), maintenance and reparation (2-3%), and other costs that may arise during investment (3%).”

Thus, the total project considered by the project owner is found appropriate and realistic. It is also evident that 74% of project cost is already verified with the actual cost. The remaining part is also checked subject to sensitivity analysis and is not expected to vary to the extent that impacts additionality qualification.

Cross check with other projects:

It was noted by assessment team that Turkey was part of the Annex -1 country and thus was not participant in the CDM program mechanism. Thus, there are not much publicly available data for validated registered projects in Turkey except few registered projects available in Gold Standard and Verra registry.

By analysis these projects, it was also noted that there is a common practice in Turkey, where project owners/ participants do not wish to publish the financial data of the project investments. So, most of these project documents and subsequent validation reports do not contain many details about the project cost break up or the financial analysis and it is submitted as part of confidential information.

Nevertheless, the project cost is further checked with following projects in comparable manner and considered cost in the current project is found appropriate.

Project Reference No	Time Horizon	Capacity	Project Cost / MW (million Euro/MW)
GS4922	turbine agreement in 2016	Installed capacity 65.5 MW	1.14
GS3411	turbine agreement in 2015	Installed capacity 21 MW	1.18
GS7733	turbine agreement in 2019	Installed capacity 48.9 MW	1.11
GCC0001	turbine agreement in 2017	Installed capacity 30 MW	1.14

3) Electrical output / Generation from Project: 35,500,000 KWh

The total generation from the project activity (i.e., considering the PLF) or the electricity supplied to the grid is considered based on energy yield report^{/22/}. This is further checked that this data was available with the project owner as same figure and capacity was considered in the generation license^{/23/}. Generation license mentions the limit for generation for the project activity considering the installed capacity of 12.6 MWm and electrical generation of 10 MWe for the project activity.

The source of the amount of energy generated is in accordance with PLF validation guidance - EB48 Annex 11 as third-party yield assessment report is based on the study

	<p>and analysis conducted for wind pattern over the period of time at project activity locations and also approved by the government while applying the project activity for generation license.</p> <p>Further the generation output has been subjected to the sensitivity analysis as discussed in later part of this section and it seems impractical for project to achieve variation in generation that make IRR crossing the benchmark.</p> <p><u>Transmission Losses: 2.33%</u></p> <p>The net electricity generation in calculation of revenue from project also deducts the transmission losses from the generation amount. The value used in the investment analysis is considered from “Annual Development of Electricity Generation – Consumption and Losses in Turkey published by TEIAS^{50/}.</p> <p>The document lists down the observed percentage of the transmission losses from year 1993 to 2019. The project owner has used the last 3 years data prior to commissioning of the project i.e., 2013-14-15 and the value comes at 2.33%. even though 2015 is an investment decision year, the considered value is accepted by assessment team as it is conservative than average of 2012-13-14.</p> <p>The minimum value observed over period of 27 years is 1.9% (2017) and even consideration with that value, does not impact project additionality.</p> <p>The value applied could be confirmed from a data available at the Turkish Electricity Transmission Corporation open sources. Hence. the value used was found acceptable by the team. The transmission losses are to be incurred by the project activity albeit these losses represent the losses that would occur after the said electricity/energy is supplied to grid. Therefore, for the purpose of emission reductions, the net supplied to the grid at metering point has been considered. However, for revenue purposes, the transmission losses have been subtracted from annual income. This issue was further checked in investment analysis, and it was confirmed that even removing the transmission losses from the consideration, there is no impact on the project additionality (with sensitivity analysis also).</p> <p>4) <u>Operating life: 25 Years</u></p> <p>The operating life for the project is considered as 25 years in accordance with Tool 10: Tool to determine the remaining lifetime of equipment^{10/}, version 01. The investment analysis is also conducted for complete lifetime of the project activity and thus accepted. The project activity is wind energy-based power generation and consideration of lifetime of 25 years is as per the international standards and practice.</p> <p>5) <u>Tariff for First 10 years: 7.3 USD/KWh (65.74 Euro/MWh)</u></p> <p>The project activity refers the electricity tariff of ‘Law on the use of Renewable Energy Resources for the purpose of Generation of Electrical Energy’, Law No – 5346, accepted on 10/5/2005^{44/}.</p> <p>The tariff order was reviewed and also checked with revision history, and it was confirmed that this was the latest and applicable tariff rate for licenced wind projects in Turkey. There has not been any revision in the applicable tariff rate later on.</p> <p>The tariff order fixes the tariff rate for renewable projects for first 10 years of operation and for later part of its life, the electricity needs to be sold in open market.</p> <p>For Wind power project the tariff rate is 7.3 USD/KWh for the first 10 years of operation. Thus, the project owner has considered the same tariff for period of 2016-2026 in</p>
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investment analysis and is found appropriate and accurate. Further, considered tariff rate is also cross checked with other registered GS projects and found similar consideration (GS7733, GS3411, GS1308).

6) Tariff beyond 10 years: 60.26 Euro/ MWh

Since the project lifetime is 25 years the tariff rate beyond 10 years is considered as an average Spot Price for Electricity Sale for 2012-2013-2014 (last 3 years prior to investment decision year) by the project owner.

It should be noted that tariff order price is an incentivise price being the renewable project as it covers the tariff for investment attractiveness. While for spot/open access market, the projects need to compete with all projects including the low-cost technology-based plants. Thus, the average spot prices are always lower than the tariff rates.

The project activity considers the average Spot Price for Electricity Sale for 2012-2013-2014 as 60.24 Euro/MWh the value considered has been based on the real selling prices of electric energy for the mentioned period as published on the website of the Turkish Transparency Platform operated by Energy Markets Management Company (EPIAS)^{51/}.

The assessment team also noted from the available spot historical prices^{51/} that spot/open access electricity tariff in Turkey has dropped from 80.74 USD/MWh to 46.33 USD/MWh from period of 2011 to 2016. Thus, it can be confirmed that there is consistent trend of price drop for spot electricity prices, and it is unlikely it to go on higher side.

Nevertheless, the variation in tariff has also been covered under sensitivity analysis and it is confirmed that even after hypothetical rise of 100% in tariff after 10 years, the project activity IRR does not cross the benchmark.

7) Depreciation duration and Rate and Residual Value:

The Project owner has considered the depreciation of only Turbine cost in the analysis it is an appropriate assumption as other cost considered are project development/implementation cost and not the assets. The Depreciation period for turbines and equipment has been taken as 10 years.

The depreciation rate applied has been checked with the local expert team and cross reference cited by the project owner in analysis^{45/} and is found appropriate. It is also cross checked with other registered GS projects and is found similarly applied across all wind projects in Turkey.

After the lifetime of 25 years of the project a fair/residual value of the equipment is added back to the annual cash flow of last year. The fair value is considered as 5% of the turbine cost and is found acceptable assumption considering end of life of the equipment. This has been found acceptable based on the inputs from the local expert the financial expert in the assessment team.

8) Operation and Maintenance Expenses: 6,49,368 Euro/year – 51537/MW

Apart from the project cost, the OPEX cost is major part of the investment analysis considered. The considered operation and maintenance cost by the project owner is mainly divided into following parts

Cost	Amount (Euro)/ Year	Approx. % of total O&M Cost
Repair and Maintenance Cost	2,40,000	37%

Personnel & Administrative	1,36,000	21%
System usage Charges	156,735	24%
Insurance Cost	57,600	8.9%
Contingency	59,033	9.1%
Total	649,368	

- Repair and Maintenance Cost:

Repair and maintenance cost forms approx. 37% of the total O&M cost. The project owner has signed the repair and maintenance cost agreement with the supplier^{31/}. The agreement was signed on the same date as turbine agreement date i.e., 03/07/2015 and thus available at the time of investment decision.

The agreement has been provided to the assessment team and checked as 40,000 Euro/ WTG. The total comes to 2,40,000 Euro/ for 6 WTGs/year.

This is actual price of the agreement and less likely to change over the period of time. The payment price is decided and to be paid in Euro in contract.

This is the actual value, available the time of investment decision and gives realist idea regarding the cost and thus accepted by the assessment team.

- System usage charges:

The annual system usage fees and system operation fees are charged from the project operations for utilization of the system and grid. The rates are decided by the Energy Market Regulatory Board and project investors needs to pay the price as per MW of electricity generation capacity per year.

Considering 12.6 MW on installed electricity generation capacity, the system usage charges come to 120,000 Euro/year and system operation fees come to 36,233` Euro/year for the project activity.

These charges are crosschecked with a document for charges issued by Energy Market Regulatory Board and found appropriate.

These are regulatory charges and less likely to have any variation over the period of time.

- Personnel & Administrative:

Under personnel charges, the project owner has assumed hiring of 7 personnel for the project and security guard. The assumptions made towards cost of them based on their pre-project experience. The charges are verified with the local expert in the team and is found to be reasonable.

- Insurance cost:

0.5% of turbine cost is considered as insurance cost based on project owner's experience and it is found appropriate to assessment team as per the standard industrial practice. It also does not have any pact on the project additionality being a miscellaneous expense.

- Contingency:

The project owner has also considered contingency in the O&M cost, and it is being carried forward for each year. Contingency consists of approx. 9.1% of total O&M cost and reasoning towards consideration is, that project owner has not considered any escalation in the O&M cost over the project lifetime. Further, repair and maintenance costs are to be paid in the euro. Turkey also does not manufacture many components of maintenance parts as they are imported from Europe and changed by supplier in euro. So, currency exchange rate margin also needs to be accounted by the project owner.

This justification from the is found appropriate to the assessment team and it is also reasonable to accept as in current situation, recently Turkish lira has lost it 44% valuation in 2021 alone^{46/} against Euro and margin is required to meet up these expenses.

In view of above, contingency considered by the project owner is found acceptable.

The O&M cost have been cross-checked with other registered projects, but variation is found between the different project activities. These may be due to variation in installed capacity, different assumption of input variable or different service providers as much detailed analysis of O&M costs are not available publicly in other projects.

It is observed that GS4922 has 43279 Euro/MW/year, GS7733 has 28371 Euro/MWh/year and GCC S0001 has 41454Euro/MW/year.

To cover the possible impacts, the O&M cost is checked with sensitivity analysis, and it is found that even with 50% reduction in total O&M cost, the project activity IRR is not likely to cross the benchmark. The repair and Maintenance cost along with system usage charges consist almost 64% of the O&M cost and these charges are confirmed as actual charges and less likely to vary over the period of time. So, it is not likely that project O&M will reduce in a way that will make project non-additional during the operation period.

Conclusion:

The input values of the parameters involved in the investment analysis have been cross-checked against each of the evidence provided by the project owner and all the values were found to be applicable/relevant at the time of the investment decision and or project activity scenario.

Calculation and comparison of financial indicators:

For calculation of financial indicator, all relevant costs and revenues were found to be included in the IRR sheet^{3/}. All assumptions and estimates used for input values were checked against the relevant sources.

The applied benchmark of 15% has been sourced from EBRD report for renewable energy investments in Turkey. The applied pre-tax benchmark IRR of 15% was found to be reliable as the evaluation report published by international finance institution providing loan to Turkish Renewable energy projects mentions the benchmark IRR as 15%, which is above the pre-tax IRR (equity/project) of 8.38% calculated for the project.

The IRR value for this project is calculated as 8.38%, which was found to be well below applicable benchmark of 15%. Since the IRR is lower than the benchmark, the Project Activity cannot be considered as financially attractive.

Sensitivity analysis

A variation of ±10% in the critical assumptions (i.e., total investment, annual O&M cost, and power sales revenues) is presented by the Project Owner in the IRR sheet and the same is validated.

The input parameters that constituted more than 20% or the total revenues/costs have been identified and taken into account in the sensitivity analysis:

IRR Variation	-10%	+10%
Investment cost	9.65%	Not required

	Operating cost	9.28%	Not required															
	Electricity price	Not required	10.36%															
	Electricity Generation	Not required	9.98%															
<p>The likelihood of a project activity surpassing the benchmark IRR, in order to ensure the adequacy of the assumptions used in the investment analysis was performed as follows</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Variation</th> <th>Probability of the situation</th> </tr> </thead> <tbody> <tr> <td>Project cost</td> <td>Approx. (-38%_</td> <td>The project activity is likely to cross the benchmark with reduction of more than 38% in total project cost, which is not possible to happened as signed turbined cost already constitutes the 74% of the project cost</td> </tr> <tr> <td>Operating cost</td> <td>-</td> <td>The project does not cross the benchmark with variations in O&M cost</td> </tr> <tr> <td>Electricity sales revenue</td> <td>Approx. 44%</td> <td>After more than 44% increase in the tariff price (for 25 years) the project activity is likely to cross the benchmark. Any increase in tariff is not possible and it is fixed from the tariff order. The project does not cross benchmark even after 3 times price raise in tariff after 10 years, which is not likely scenario in a trend where electricity spot prices are already decreasing.</td> </tr> <tr> <td>Energy Yield (Net - Sold)</td> <td>45%</td> <td>The project crosses benchmark after 45% increase in generation. However, this is not going to happen as generation license for the project do not envisage or allow it.</td> </tr> </tbody> </table> <p>The sensitivity analysis results were found to be appropriate and was found to be calculated in-line with the tool^{8/9/} as verified from the IRR sheet^{3/}.</p>				Parameter	Variation	Probability of the situation	Project cost	Approx. (-38%_	The project activity is likely to cross the benchmark with reduction of more than 38% in total project cost, which is not possible to happened as signed turbined cost already constitutes the 74% of the project cost	Operating cost	-	The project does not cross the benchmark with variations in O&M cost	Electricity sales revenue	Approx. 44%	After more than 44% increase in the tariff price (for 25 years) the project activity is likely to cross the benchmark. Any increase in tariff is not possible and it is fixed from the tariff order. The project does not cross benchmark even after 3 times price raise in tariff after 10 years, which is not likely scenario in a trend where electricity spot prices are already decreasing.	Energy Yield (Net - Sold)	45%	The project crosses benchmark after 45% increase in generation. However, this is not going to happen as generation license for the project do not envisage or allow it.
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Energy Yield (Net - Sold)	45%	The project crosses benchmark after 45% increase in generation. However, this is not going to happen as generation license for the project do not envisage or allow it.																
Findings	<p>CL#02 was raised for validation and appropriateness of the considered benchmark and was successfully resolved. CL#03 was raised for validation of Investment decision date / financial input parameters and appropriateness of the calculation. All findings were resolved.</p>																	
Conclusion	<p>The information mentioned in the PSF is duly supported by evidence quoted therein. The verification team has described all steps taken, and sources of information used to cross-check the information contained in the PSF. The verification team determined that the evidence assessed is credible, where appropriate.</p>																	

A.14.6 Estimation of emission reductions or net anthropogenic removal

Means of Verification	Project	<p>Para 22 of the applied simplified methodology AMS-I.D (Version 18.0) demonstrates the equation for calculation of the emission reductions. The project owner has followed the same approach in line with the applied methodology for calculation of emission reductions.</p> <p>As per the applied methodology,</p> $ER_y = BE_y - PE_y$ <p>Where:</p> <table> <tr> <td>ER_y</td> <td>Emission reductions in year y (t CO₂e)</td> </tr> <tr> <td>BE_y</td> <td>Baseline Emissions in year y (t CO₂)</td> </tr> <tr> <td>PE_y</td> <td>Project Emissions in year y (t CO₂e)</td> </tr> </table>	ER _y	Emission reductions in year y (t CO ₂ e)	BE _y	Baseline Emissions in year y (t CO ₂)	PE _y	Project Emissions in year y (t CO ₂ e)
ER _y	Emission reductions in year y (t CO ₂ e)							
BE _y	Baseline Emissions in year y (t CO ₂)							
PE _y	Project Emissions in year y (t CO ₂ e)							

	<p>Baseline Emissions</p> <p>Baseline emissions are calculated as the product of the Baseline Emission Factor ($EF_{grid,y}$ in tCO₂/MWh) times the electricity supplied by the Project.</p> $BE_y = EG_{PJ,y} * EF_{grid,CM,y}$ <p>Where:</p> <table style="margin-left: 40px;"> <tr> <td>BE_y</td> <td>Baseline Emissions in year y (t CO₂)</td> </tr> <tr> <td>$EF_{grid,CM,y}$</td> <td>Grid Emission Factor (t CO₂ / MWh)</td> </tr> <tr> <td>$EG_{PJ,y}$</td> <td>Net aggregated electricity supplied to the grid by the PA</td> </tr> </table> <p>The Net electricity supplied to the grid by the project activity is determined by calculating the difference of monitored electricity export to grid and monitored electricity import from the grid by the project activity.</p> <p>Grid Emission Factor:</p> <p>As per para 22 of the applied methodology, Grid emission factor can be calculated by two means</p> <ol style="list-style-type: none"> 1) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the “Tool to calculate the emission factor for an electricity system”; 2) The weighted average emissions (in t CO₂/MWh) of the current generation mix. The data of the year in which project generation occurs must be used. <p>The project owner has chosen the approach (1) and considered determination of the combined margin emission factor of the Turkish national Grid.</p> <p>Tool to calculate the emission factor for an electricity system, version 07^{10/} is being used for calculation of the combined margin for the grid. The tool step by step guides for the determination of Operating Margin (OM) as well as Build Margin (BM) of any grid. Based on weightage average of OM and BM the combined margin of the grid is calculated.</p> <p>Tool to calculate the emission factor for an electricity system, version 07, Para 42 (a) and Para 72 (a) requires project owners to use the most recent latest data available in order to calculate the OM and BM respectively if ex-ante option is chosen.</p> <p>The project owner has chosen the ex-ante option, determined and fixed the grid emission factor for the entire crediting period. So latest data for electricity generation in the Turkish Grid needs to be used.</p> <p>The Energy Department of Turkish Government has published an official data sheet^{19/} for the grid emission factor of Turkish Grid. The same has been used by the project owner and submitted to the assessment team for the verification. The datasheet is referenced as ETKB-EVÇED-FRM-039 Rev.00 as published on 06/10/2021 considering the electricity generation data of the year 2019^{19/}.</p> <p>Under the information for calculation methodology, the datasheet mentions and confirms the calculation of OM, BM and combined margin of the Turkish grid are done as per the guidance and step-by-step approach provided in the CDM Tool 07: Tool to calculate the emission factor for an electricity system, version 06.</p> <p>This database has determined the OM, BM and combined margin of the Turkish grid as per the Tool 7.</p>	BE_y	Baseline Emissions in year y (t CO ₂)	$EF_{grid,CM,y}$	Grid Emission Factor (t CO ₂ / MWh)	$EG_{PJ,y}$	Net aggregated electricity supplied to the grid by the PA
BE_y	Baseline Emissions in year y (t CO ₂)						
$EF_{grid,CM,y}$	Grid Emission Factor (t CO ₂ / MWh)						
$EG_{PJ,y}$	Net aggregated electricity supplied to the grid by the PA						

	<p>It is confirmed that this the latest data available for Turkish grid as published on 06/10/2021 and prior to submission of the project to the GCC verifier. The grid emission factor values for OM and BM are taken from the official source and thus are considered authentic and correct.</p> <p>It is also noted that during the revision of the version 06 to version 07 of the Tool07, only guidelines related to the off-grid plants were changed. Thus, it can be confirmed that datasheet published by Turkish government is also in compliance with latest version 07 of the Tool 07.</p> <p>The datasheet does not provide raw data used for calculation or the step wise calculation used. However, being it published by the host country government authority, so authenticity and reliability of the data is confirmed.</p> <p>It was also noted that most of the links related to energy department and the links grid emission factor datasheet is not working or accessible for outside Turkey. The project owner has provided the copy of grid emission factor datasheet to assessment and accuracy of verified information was also checked with local expert of the team,</p> <p>Considering the weightage average factors for the OM and BM for wind power projects, in accordance with the Tool 07, the databased determines the combine margin of the Turkish grid as 0.6482 tCO₂e/MWh.</p> <p>The Project owner has consistently applied it throughout the PSF^{/2/} and is found appropriate.</p> <p>Net electricity generation from the plant:</p> <p>As per the applied methodology, $EG_{PJ,y}$ is $EG_{PJ, facility}$, which is the net electricity generation by the project activity calculated based in measured values of export and imports. This will be monitored parameters and will be measured / monitored throughout the crediting period for calculation of the emission reductions</p> <p>.</p> <p>For calculation of ex-ante emission reductions, the project owner has chosen to use the value considered from the energy yield report^{/22/} and the generation license^{/23/} capacity of the project activity.</p> <p>The total electricity generation from all WTG installed is 10 MWe, which comes to 35,500 MWh.</p> <p>Since, considered value is based on the third-party yield assessment report and also approved by the regulatory authority it has been accepted by the assessment team. Also, the mentioned value is consistently utilized in the investment analysis also.</p> <p>Project and Leakage Emissions:</p> <p>As per the applied simplified methodology, the Project emissions PE_y are considered as Nil- Zero by the project owner and the same is accepted as the project activity is wind energy based renewable power plant.</p> <p>As per the applied simplified methodology, there are no leakage emissions applicable for the project as it is green field wind power plant.</p> <p>Thus, ex-ante emission reductions for the project activity would be,</p> $ER_y = BE_y = EG_y * EF_{grid,CM,y}$ $= 35,500 \text{ MWh/year} * 0.6482 \text{ tCO}_2/\text{MWh}$ $= 23,011 \text{ tCO}_2/\text{year}$
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	<p>The emission reduction calculations were assessed by the assessment team against the requirements of the applied methodology.</p> <p>The ex-ante estimates given in the PSF^{2/} are realistic and conservative and estimated in accordance with the requirement of the applied methodology.</p>
Findings	<p>CL#04 was raised for</p> <ul style="list-style-type: none"> - Application and appropriateness of Tool 7 and also on the vintage of data considered in the calculation of grid emission factor - Estimation of electricity generation <p>The issues raised were resolved successfully.</p>
Conclusion	<p>The verification team confirms the following;</p> <ul style="list-style-type: none"> • All assumptions and data used by the project participants are listed in the PSF, including their references and sources; • All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PSF; • All values used in the PSF are considered reasonable in the context of the project activity; • The baseline methodology and the applicable tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions; • All estimates of the emissions can be replicated using the data and parameter values provided in the PSF. • No sampling has been applied in the project activity.

A.14.7 Monitoring plan

<p>Means of Project Verification</p>	<p>The project owner has correctly applied the approved monitoring methodology AMS-I.D. Version 18 in the PSF. The monitoring plan is included in Section B.7 of the PSF is in accordance with the applied methodology and requirements of the project activity and applied labels.</p> <p>The monitoring plan has been found to be in compliance with the requirements of the applied methodology for calculation of GHG emission reductions, GCC Environment-and-Social-Safeguards-Standard, version 2^{/14/}, and Project-Sustainability-Standard, version 2.1^{/15/}.</p> <p>The monitoring plan includes following parameters:</p>	
	<p>1. EG_y</p>	<p>Quantity of net electricity generation supplied by the project plant to the grid in year y</p> <p>The monitoring parameter will be continuously monitored by means of main meters and back-up auxiliary meters. The meters are bi-directional tri-vector energy meter of 0.5s accuracy class. The net electricity generation will be derived based on the export and import data.</p> <p>The project activity WTGs are connected to a common substation and through common meter. The Project owner has provided photos and installation certificates for meters and are checked and found consistent with the information provided in the PSF. The photos of meters are attached as Annexure to this report.</p> <p>For the purpose of measurement, the readings of main meter will be accounted in normal scenario but in case of failure of main meter, back up meter reading will be accounted.</p> <p>The calibration of the meters will be maintained by regulatory authority of Ministry of Trade and Industry, and it is not in project owner’s control. However, it is mentioned by project owner and verified by assessment team that as per Article 9 (b) of the “Inspection of Measurement and Measuring Equipment Regulation”, published in Turkish Official Gazette dated 15/01/2019 and No. 30647, the maintenance and calibration of energy meters should be undertaken every 10 years^{/47/}.</p> <p>Since, it is from the official regulation, thus checked and accepted by the assessment team.</p> <p>The monitoring parameter will be recorded for emission reduction on monthly basis in accordance with the applied methodology.</p>
	<p>2. CO₂ Emissions</p>	<p>Reduction of CO₂ emissions due to implementation of project activity that would otherwise be emitted by thermal power plants</p> <p>The monitoring parameter will be done monthly</p>

		<p>based on calculation from the continuously monitored electricity generation.</p> <p>The calculation procedures for the reduction in CO2 emissions are correctly defined in the PSF. The parameter is being monitored to assess to contribution SDG goal -13 Climate Change and also the positive environmental impact. Adequate details for monitoring/reporting/recording are defined in the PSF.</p>
	3. PM2.5 and PM10	<p>Avoided PM2.5 and PM10</p> <p>The monitoring parameter will be calculated by means the amount of electricity supplied to the grid.</p> <p>Based on electricity data for the year 2016-17 (commissioning year) Turkey's average PM10 value and PM2.5 has been used for baseline reduction estimations</p> <p>The Project owner has used the PM2.5 and PM10 emission data near the locations of the thermal power plants as published by TEIAS and average value of it is used to calculate the PM 2.5 and PM10 reduction by the project activity.</p> <p>By this in direct means of calculation, the project activity demonstrates the reductions in PM2.5 and PM10 emissions.</p> <p>The project activity is renewable energy-based generation. The absence of the project activity, same amount of the electricity would have been generated from fossil fuel based thermal power plants as selected in the baseline.</p> <p>The Project owner has estimated the emission of PM2.5 and PM10 based on the Turkey's average emission data and also electricity generation.</p> <p>This factor will be used to calculate the impact of project activity in reduction of these SPMs.</p> <p>The source data and calculation used in ex-ante estimation have been checked and found appropriate to the assessment team.</p> <p>The PM10 and PM2.5 emissions near thermal power plants will be monitored and updated during the monitoring period as per the latest government data available and thus the Project owner will calculate and demonstrate the</p>

			<p>contribution towards the SDG.</p> <p>The assessment team believes, this may not provide the accurate and exact data for PM2.5 and PM10 reductions but it seems reasonable methodology for Project Owner to quantify this positive impact generated by the project activity and thus accepted.</p> <p>The parameter is being measured to assess the contribution to SDG 11 Sustainable Cities and Communities/ SDG Target, by means of reducing the air pollution and positive impacts on the environment. Adequate details for monitoring/reporting/recording are defined in the PSF.</p>
	4.	Water Quality and Quantity	<p>Cooling water discharge prevented:</p> <p>The monitoring parameter will be calculated by means the amount of electricity supplied to the grid.</p> <p>Based on cooling water discharged data for the year 2016 Turkey's cooling water discharge has been used for baseline reduction estimations. The project owner has used the cooling tower discharged data as published by TEIAS for thermal power plants and used same to arrive at a factor of discharge / electricity generation, By this indirect means of calculation, the project activity demonstrates the reductions in cooling water discharge and thus water pollution.</p> <p>The project activity is renewable energy-based generation. The absence of the project activity, same amount of the electricity would have been generated from fossil fuel based thermal power plants as selected in the baseline.</p> <p>The Project owner has estimated the generation of cooling water discharge based on the Turkey's average discharged data and also electricity generation.</p> <p>This factor will be used to calculate the impact of project activity in reduction of these water pollution and usage.</p> <p>The source data and calculation used in ex-ante estimation have been checked and found appropriate to the assessment team.</p> <p>Cooling water discharged from the thermal plants will be monitored and updated during the monitoring period as per the latest data available from government sources and thus the</p>

			<p>Project owner will calculate and demonstrate the contribution towards the SDG.</p> <p>The assessment team believes, this may not provide the accurate and exact data for wastewater reduction, but it is a reasonable methodological approach for Project Owner to quantify this positive impact generated by the project activity and thus accepted.</p> <p>The parameter is being used To assess the contribution to SDG 6 by means of measuring the reduction in water usage and wastewater generation and also positive impacts on the environment. Adequate details for monitoring/reporting/recording are defined in the PSF.</p>
	5.	<p>Quantitative Employment</p>	<p>Number of employees hired during the project activity's operation:</p> <p>The project owner, in assessment of S+ label, has mentioned that project activity shall generate the employment for the people.</p> <p>The project owner has targeted that project activity shall provide employment to at least 8 persons during the project operation period.</p> <p>It was confirmed by the project owner during the remote interviews that under the records for employment, the project owner shall also maintain records for the employment provided to the local/rural persons in order to demonstrate impact towards community/rural development.</p> <p>Since the project activity is type- A2 project and already implemented, as sample records for employment^{48/} has been provided by project owner and checked. It was also confirmed by interview with local stakeholders that project activity has employed local/rural villagers for unskilled jobs like security guards.</p> <p>It is confirmed that the project activity does generate employment and there is a system in place to monitor the same.</p> <p>This parameter will be continuously monitored by means of employment records and adequate details for monitoring/reporting/recording are defined in the PSF.</p> <p>The employment generation can also be part of the contribution towards SDG 8, however the project owner has not claimed it under label for</p>

		SDG 8 and same is accepted by the assessment team.
	6. Employee trainings	<p>Trainings given to employees regarding health, safety and job-related areas</p> <p>The project owner has claimed under S+ section that regular trainings will be provided to the employees for their skill development.</p> <p>Sample training records are also provided by project owner and check^{49/}.</p> <p>It is confirmed that the project activity does regular trainings to its employees for skill development and there is a system in place to monitor the same.</p> <p>This parameter will be continuously monitored by means of training records and adequate details for monitoring/reporting/recording are defined in the PSF.</p>
	7. Noise Pollution	<p>Prevention and control of environmental noise pollution</p> <p>Under the E+ assessment, the project owner has claimed that project activity does not generate noise pollution beyond regulatory levels for the nearby settlements.</p> <p>The sample noise records recorded are also checked in nearby villages of the project and found under the regulatory limits.</p> <p>The parameter will be monitored to check the compliance with respect to same at periodic intervals during the monitoring period and adequate details for monitoring/reporting/recording are defined in the PSF.</p>
8	Protecting/enhancing species diversity	<p>Protection and improvement of species diversity</p> <p>Under the E+ assessment section, it has been claimed by the project owner that project activity is not in route of migratory birds and species.</p> <p>The project owner has also provided Ornithology report^{28/} for the project location prior to construction of the project. As per the report it was confirmed that the project location is not the main migration routes of migratory birds.</p> <p>Moreover, to prevent possible striking of bird with the turbines, a lighting system is installed in the turbines which red light is on at nights and white light is on in the daytime to avoid the hitting of birds.</p> <p>This installation of lighting system was confirmed with the site in-charge during the remote audit.</p>

		<p>Further, the project owner will monitor bird and bats carcasses near the turbines to monitoring the hitting and any negative impact will be reported and appropriate actions will be taken.</p> <p>Thus, the project owner has proper mechanism in place for the monitoring of this impact and adequate details for monitoring/reporting/recording are defined in the PSF.</p>
	9	<p>Generation of wastewater</p> <p>Project generates wastewater caused by the domestic use but disposes of it properly</p> <p>The project activity site location has basic facilities for employees due to which wastewater/domestic sewage water is generated. It is not being released into environment but being stored in a septic tank and being sent to the wastewater treatment plant nearby for disposal.</p> <p>The project owner has identified this impact and mitigation in E+ section and this correctly monitors this disposal to maintain compliance. Thus, the project owner has proper mechanism in place for the monitoring of this impact and adequate details for monitoring/reporting/recording are defined in the PSF.</p>
<p>The verification team confirmed that the parameters are sufficient to calculate the emission reductions in accordance with the methodology and relevant GCC standards^{/12/13/14/}and are correctly reported in the PSF.</p>		
Findings	<p>CAR#07 was raised as all parameters where impacts were identified for E+, S+ or SDG contribution, were not included in the monitoring plan. The CAR was later on resolved as the PO submitted revised PSF with inclusion of impact parameters.</p>	
Conclusion	<p>The verification team confirms that: -</p> <ul style="list-style-type: none"> • The monitoring plan described in the PSF is complying with the requirements of the selected methodology. • Based on detailed review, the monitoring arrangement described in the monitoring plan is feasible within the project design. The verification team confirms that the project owner will be able to implement the described monitoring plan. • The means of implementation of the monitoring plan are sufficient to ensure that the emission reduction and other voluntary labels achieved from the project activity is verifiable and thereby satisfying the requirement of Verification Standard. The monitoring plan will give opportunity for real measurements of achieved emission reductions. • There are no host country requirements pertaining to monitoring of any sustainable development indicators. Therefore, there are no such parameters identified in the PSF. 	

A.15. Start date, crediting period and duration

Means of Project Verification	<p>01/10/2016 is marked as commissioning completion / start date of the project activity as commissioning of all the 6 WTGs was completed on that date.</p> <p>These dates are verified from the provisional acceptance approval^{/20/} of the project. Therefore, this has been accepted as the date when the project started generating emission reductions.</p> <p>A crediting period of a maximum length of 10 years has been selected by PO. The start date of the crediting period is stated as 01/10/2016, which is same as the project activity start date as thus appropriate.</p> <p>The lifetime of project activity is expected to be 25 which is verified from the technical evaluation report.</p>
Findings	No findings were raised
Conclusion	Start date, crediting period start date and duration are appropriately selected and mentioned in the PSF.

A.16. Environmental impacts

Means of Project Verification	<p>The project complies with the relevant regulations and laws in Turkey and does not have any negative impacts on the environment.</p> <p>As per the Turkish environmental regulations, the project activity does not require an Environment Impact Assessment. This has been checked with exemption letter issued by the Ministry of Environment and Urbanization in 04/05/2009 ^{/21/}, which confirmed that Environmental Impact Assessment (EIA) is not required for the project activity sites.</p> <p>This confirmed that Host Party through applicable Turkish regulation does not foresee any negative impacts from the project activity on the Environment.</p> <p>However, the project activity has applied for E+ Label and environmental impacts with respect to the Environment and Social Safeguard Standard, version 02. The verification of the same is attached as separate Appendix 5 of this report.</p>
Findings	No findings
Conclusion	In the opinion of the assessment team, in the project activity there were no adverse environmental impacts revealed in the analysis. There are no transboundary environmental impacts associated with the project.

A.17. Local stakeholder consultation

Means of Project Verification	<p>The project activity has conducted the LSC by means of inviting the feedback from various stakeholder for the project activity.</p> <p>The PSF has cited limitation in conducting the physical consultation meeting due to the ongoing COVID-19 pandemic. Since the world is facing the COVID-19 pandemic issue from more than last 2 years and there have been worldwide restriction and guidelines imposed by various national and international organizations, the clarification provided by project owner is found reasonable.</p> <p>However, a complete requirement of LSC has been assessed by the team.</p> <p>The project owner has sent the information notes^{/25/} and evaluation forms regarding the project activity to the various stakeholders via e-mail. Also, the evaluation forms were sent to the site for local stakeholders and villagers.</p> <p>Copy of these emails and filled feedback forms^{/26/} have been provided to the assessment team and checked.</p>
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	<p>It was confirmed that the project owner had sent the project information and feedback invitations to the following stakeholders.</p> <ul style="list-style-type: none"> • Governorate of Sivas Province • Sivas Municipality and Land registry • Sivas Provincial Directorate of Environment and Urbanization / Culture and Tourism • Mukhtar (Village head of local villages) • Local people and villagers of Nearby site <p>Since no physical meeting has taken place but the feedback consultation is done, the dates of these consultations are considered as LSC dates by the assessment team. Most of the consultation forms are dated 04/10/2021 and the project owner have sent emails to authorities on 05/10/2021, for most of which no feedback revert is received. Thus, period from 04/10/2021-05/10/2021 is validated as considered as LSC dates. Nevertheless, the assessment team has also checked and confirmed that any feedback received after this period is also considered by the project owner.</p> <p>Comments Received and action taken: Feedback form received from the local stake holder are also provided as an Annex to the PSF. The Project owner have received positive comments for the project and no negative apprehensions. All the comments have been taken care by the project owner and apprehensions were appropriately answered and justified in the PSF.</p> <p>During the remote audit some of the Local Stake holders (Local villagers) were video interviewed by the assessment team. The Local Stake holders confirmed taking of their feedback by the project owner and positive opinions regarding the project activity. During the remote interview local stakeholders confirmed</p> <ul style="list-style-type: none"> - Employment generated by the project activity, mainly related to unskilled work like security guards and contractual labor. The project activity employs all local personal only for unskilled jobs - Increase in local community business during the construction activity of the project - No negative environmental impacts like noise pollution, shadow flickering or water pollution or overuse of local resources - No negative social impacts due to project <p>It was also noted that SDG contributions claimed are related to overall national/global impacts of the project and particular assessment related SDG contribution/project level indicator with local stakeholder was not required. Local employment generation by the project activity is confirmed.</p>
Findings	Issue in CL#06 was raised regarding the local stakeholder consultation and was closed satisfactory.
Conclusion	<p>The assessment team confirms that the summary of stakeholders' comments reported in PSF is complete. In the opinion of the team, the local stakeholder consultation process was adequately conducted by the project owner considering the ongoing pandemic to receive unbiased comments from the all the stakeholders. Team also confirms that all the comments received are transparently taken care by the project owner and appropriately answered.</p> <p>The verification team confirms that the local stakeholder consultation process performed for the project activity fulfils the requirements.</p>

A.18. Approval and Authorization- Host Country Clearance

Means of Project Verification	<p>As per the GCC program guidelines, the submission of HCLOA on double counting is required by CORSIA labelled project after 31/12/2020 as verified under section D.13 of this report. The project owner has applied for the CORSIA eligibility.</p> <p>Paragraph 33(d) of GCC Program Process requires Project Owner to submit the HCLOA together with the project documentation required for submission of request for registration of the project so that project activity can be displayed as having market eligibility flag (C+) on the GCC Project website and GCC registry.</p> <p>However, Para 16 of Standard on Avoidance of Double Counting, version 1.0 also allows project owners to submit the HCLOA at the time of issuance stage provided they make a declaration under the PSF.</p> <p>Currently project owner is not able to submit the HCLOA letter and has declared under section A.6 of the PSF to provide the same at the time of emission reduction verification / issuance stage and thus accepted.</p>
Findings	No findings were raised
Conclusion	The verification team confirms that project owner has declared in the PSF that HCLOA shall be submitted at issuance stage and meets the requirement of Standard on Avoidance of Double Counting, version 1.0 as published by the GCC.

A.19. Project Owner- Identification and communication

Means of Project Verification	<p>The information and contact details of the project owners has been appropriately incorporated in Appendix 1 of the PSF which was checked and verified by the verification team from Authorization letter^{5/} signed by the project owners. All information was consistent between these documents.</p> <p>The legal ownership of the project is with Mursal Enerji Üretimi Sanayi ve Ticaret Anonim Şirketi it is checked with the generation license issued for the project. Mursal Enerji Üretimi Sanayi ve Ticaret Anonim Şirketi. is also one of the project owner and have authorized Maki Elektrik Enerji Operasyonları Yönetimi A.Ş. to act as project owner and authorized representative of project owner.</p> <p>Further the details and authenticity of letter of authorization are also checked. The legal ownership of the signing authority of the letter of authorization is confirmed. The project activity title, legal ownership, project owner and authorised representative details as provided in the PSF, Annex 1 and in the letter of authorization are correct and consistent.</p> <p>The name of project owner, title and other details have also been checked with the GCC project page for the project activity and is found consistent.</p>
Findings	No findings were raised
Conclusion	The verification team confirms that the information of the project owners has been appended as per the template and the information regarding the project owners stated in the PSF and authorization letter were found to be consistent and correct.

A.20. Global stakeholder consultation

Means of Project Verification	<p>The PSF was made available through the dedicated interface on the GCC website</p> <p>The duration of the period for submission of comments for the global stakeholder consultation was from 09/12/2021 to 23/12/2021.</p> <p>There were no comments received during this period.</p>
Findings	No findings were raised
Conclusion	The PSF had been made public for receiving stakeholder feedback and no comments were raised during the GSC process.

A.21. Environmental Safeguards (E+)

<p>Means of Project Verification</p>	<p>The Project Owner has chosen to apply for the Environmental No-net harm Label (E+). The assessment for the Environmental safeguard has been carried out by the PO in section E.1 of the PSF. Out of all the environmental impacts, no negative impacts have been identified by the Project owner. Impacts identified by project owner and verified by assessment team are as follows.</p> <p>Positive Impacts:</p> <ul style="list-style-type: none"> - Environmental – Air – CO₂ emissions (Reduction): The impact is being monitored through parameter ‘CO₂ emissions’ and is verified under section D.3.7 of the report. - Suspended particulate matter (SPM) emissions (Reduction): The impact is being monitored through parameter ‘PM_{2.5} and PM₁₀’ and is verified under section D.3.7 of the report. - Replacing fossil fuels with renewable sources of energy: the impact is self-evidentiary as project being a renewable energy power plant and baseline is fossil fuel dominated grid. It is also directly/practically difficult based on available data to quantify the actual amount of fossil fuel continuously replaced as the grid generation would be mixed of existing and newly plants being built. The Assessment team also feels that there is no separate monitoring required for this parameter as net electricity generated by project activity is already being monitored and it can be concluded that same amount of electricity would have been generated in grid with contribution of fossil fuel (based on grid mix). <p>Impacts identified but regulatory complied OR mitigated:</p> <ul style="list-style-type: none"> - Noise Pollution: The impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored verified under section D.3.7 of the report. - Generation of wastewater/sewage water from site: The impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored verified under section D.3.7 of the report. - Protecting/ enhancing species diversity: The impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored verified under section D.3.7 of the report. <p>Harmful Impacts:</p> <ul style="list-style-type: none"> - No harmful impacts identified or verified for the project activity, which cannot be mitigated <p>An appropriate monitoring plan has been put in place for the impacts identified. The total score for E+ is verified as 6. The detailed matrix has been included in appendix 5 of the report.</p>
<p>Findings</p>	<p>CL#05 and CAR#07 were raised for clarity and compliance requirement and were resolved.</p>
<p>Conclusion</p>	<p>Based on the documentation review the verification team can confirm that Project Activity is not likely to cause any negative harm to the environment but would have a positive impact, hence, is eligible to achieve additional E+ certifications.</p>

A.22. Social Safeguards (S+)

<p>Means of Project Verification</p>	<p>The project owner has chosen to apply for the Social No-net harm Label (S+). The assessment for the social safeguard has been carried out by the PO in section E.2 of the PSF.</p> <p>Out of all the social impacts, no negative impacts have been identified by the Project owner. Impacts identified by project owner and verified by assessment team are as follows.</p> <p>Positive Impacts:</p> <ul style="list-style-type: none"> - Long-term jobs created: The impact is being monitored throughout crediting period by parameter ‘Quantitative Employment’ and is verified under section D.3.7 of the report - Reducing / increasing accidents: The impact is being monitored throughout crediting period by parameter ‘Employee trainings and site accident records’ and is verified under section D.3.7 of the report. The employees will be provided job and HSE related trainings. Any accident occurring on site will be recorded by the Project owner - Job related training imparted or not: The impact is being monitored throughout crediting period by parameter ‘Employee trainings and site accident records’ and is verified under section D.3.7 of the report. - Community and rural welfare: This is done by providing employment opportunities to the local/rural people. The parameter is being indirectly monitored through ‘Quantitative Employment’ and verified under section D.3.7. Under employment records, local/rural people employed by the project activity will also be noted down and monitored and impacts on Community and rural welfare can be checked at verification stage. <p>Impacts identified but regulatory complied OR mitigated:</p> <ul style="list-style-type: none"> - No such impacts identified. <p>Negative Impacts:</p> <ul style="list-style-type: none"> - No negative impacts identified or verified for the project activity <p>An appropriate monitoring plan has been put in place for the impacts identified. The total score for S+ is verified as 4. The detailed matrix has been included in appendix 6 of the report.</p>
<p>Findings</p>	<p>CL#05 and CAR#07 were raised for clarity and compliance requirement and were resolved.</p>
<p>Conclusion</p>	<p>The verification team confirms that the project activity is not likely to cause any negative impacts on the society but would have a positive impact, hence, is eligible to achieve additional S+ certificates.</p>

A.23. Sustainable development Goals (SDG+)

<p>Means of Project Verification</p>	<p>The assessment of the contribution of the project activity on United Nations Sustainable Development Goals has been carried out in section F of the PSF. Out of the 17 Goals project activity has no adverse effect on any of the goal and contribute to 4 SDGs:</p> <ul style="list-style-type: none"> - <u>SDG 6 Water and Sanitation:</u> SDG Target 6.3 “By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally” The project activity contributes towards this goal by reducing the water use / wastewater generation in thermal power plants in grid, which would have operated in absence of the project activity as the project activity replaces the generation of fossil fuel dominated grid
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	<p>in baseline. The contribution towards SGD goal is being monitored by the parameter 'Water Quality and Quantity' in the monitoring plan and is found adequate. This discussed under section D.3.7 of the report.</p> <ul style="list-style-type: none"> - <u>SDG 7 Energy:</u> SDG Target 7.2 “By 2030, increase substantially the share of renewable energy in the global energy mix” – The project activity contributes towards this goal by replacing the generation of fossil fuel dominated grid in baseline by renewable wind-based power generation. The contribution towards SGD goal is being monitored by the parameter monitoring of net electricity generated by the project activity in the monitoring plan and is found adequate. This discussed under section D.3.7 of the report. - <u>SDG 11 Sustainable Cities and Communities:</u> SDG Target 11.6 “By 2030, reduce the adverse per capita environmental impacts of cities, including by paying special attention to air quality and municipal and other waste management.” – The project activity contributes towards this goal by reducing the PM2.5 and PM10 generation in thermal power plants in grid, which would have operated in absence of the project activity as the project activity replaces the generation of fossil fuel dominated grid in baseline. The contribution towards SGD goal is being monitored by the parameter 'PM2.5 and PM10' in the monitoring plan and is found adequate. This discussed under section D.3.7 of the report. - <u>SDG 13 Climate Change:</u> SDG Target 13.2 “Integrate climate change measures into national policies, strategies and planning”. – The contribution towards SGD goal is being monitored by the parameter 'CO2 Emissions' in the monitoring plan and is found adequate. This discussed under section D.3. of the report. <p>An appropriate monitoring plan has been put in place to monitor the elements towards SDG contribution. The detailed matrix has been included in appendix 7 of the report.</p>
Findings	CL#05 and CAR#08 were raised for clarity and compliance requirement and were resolved.
Conclusion	Based on the documentation review the verification team can confirm that Project Activity is likely to contribute to the four United Nations Sustainable Development Goals and would have a positive impact, hence, is eligible to achieve additional Gold SDG+ certification.

A.24. Authorization on Double Counting from Host Country (for CORSIA)

Means of Project Verification	<p>Currently project owner is not able to submit the HCLOA letter and has declared under PSF to provide the same at the time of emission reduction verification / issuance stage and thus accepted.</p> <p>This is as per Para 16, Standard on Avoidance of Double Counting, version 1.0, which allows the project owner to opt for this option.</p> <p>Since, this issue already meets the requirement/guideline of the process, no FAR is being raised for the issue</p>
Findings	No findings raised

Conclusion	The project owner has clarified the intent of use of carbon credits for CORSIA hence no double counting will take place.
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A.25. CORSIA Eligibility (C+)

Means of Project Verification	<p>As per the GCC clarification No 01, version 1.2, the project owners shall meet following requirements at the registration stage.</p> <ul style="list-style-type: none"> a) The start of Project Activity operation and the start of crediting period shall be on or after 1 January 2016 and complies with all the applicable GCC rules and requirements; <ul style="list-style-type: none"> - The project activity has start date of 01/10/2016 and is after 01/01/2016. The project activity also meets all the applicable GCC rules and requirements as verified under various sections of this report. b) The Project Activity is likely to result in GHG emission reductions as a result of implementation of the registered GCC project activity; <ul style="list-style-type: none"> - The project activity is a wind power plant which is a clean technology and do results in the GHG emission reductions as compared to the baseline c) The Project Activity has not caused any net harm to the environment and/or society and therefore achieves Environmental No-net-harm Label (E+) and Social No-net-harm Label (S+); <ul style="list-style-type: none"> - It is demonstrated under section E of PSF and verified during the verification that project activity has not cause any harm to the environment and/or society. - d) The Project Activity has made contributions for achieving United Nations Sustainability Development Goals (SDGs) and has contributed to achieving at least three SDGs and therefore targets to achieve Silver or higher SDG certification label (SDG+); <ul style="list-style-type: none"> - The section F of PSF sufficiently demonstrates contribution to the at least 4 UN SDG Goals and same has been verified with project achieving Gold certification label. e) The project meets all the requirement of the CORSIA Eligible Emissions Units required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes; <ul style="list-style-type: none"> - The project activity does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes and meets the CORSIA Eligible Emissions Units requirements for GCC projects. <p>The HCLOA on double counting is required for ACCs beyond 31/12/2020 and the project owner has declared in PSF to comply with the same at issuance stage.</p>
Findings	No findings raised
Conclusion	The project activity meets the CORSIA Label (C+) eligibility requirements of project verification stage.

A.26. Internal quality control

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After the closer of findings, a draft verification report is prepared by the assessment team. The draft report is reviewed by an independent technical review team to confirm if the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable GCC rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team were independent of the verification team.

The technical review process may accept or reject the verification opinion or raise additional findings in which case these must be resolved before requesting for registration. The technical review process is recorded in the internal documents of ESPL, and the additional findings gets included in the report. The final report approved by the technical reviewer is authorized by Technical Manager and issued to PO and/or submitted for request for registration, as appropriate on behalf of ESPL.

A.27. Project Verification opinion

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ESPL is contracted by Life İklim ve Enerji Ltd Şti for project verification of the project activity "Karaçayır Wind Power Project in Turkey. The verification was performed based on rules and requirements defined by GCC for the project activity.

The project activity is a wind power project, which results in reductions of CO₂e emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario and the emission reductions attributable to the project are, hence, additional to any that would occur in the absence of the project activity. The project correctly applies the approved baseline and monitoring AMS-I.D. version 18.0 and is assessed against latest valid PS, VS and Environment and Social Safeguards Standard, Project-Sustainability-Standard and/or other applicable GCC/CDM Decisions/Tools/Guidance/Forms/clarifications.

The project activity is likely to achieve the anticipated emission reductions stated in the PSF provided the underlying assumptions do not change. The expected emission reductions (annual average) from the project activity are estimated to be 23,011 tCO₂e/year over the 10 years crediting period starting from 01/10/2016.

ESPL has informed the project owners of the verification outcome through the draft verification report and final verification report. The final verification report contains the information with regard to fulfilment of the requirements for verification, as appropriate.

ESPL applied the following verification process and methodology using a competent verification team;

- the desk review of documents and evidence submitted by the project participant in context of the reference GCC rules and guidelines issued,
- undertaking/conducting remote site visit, interview or interactions with the representative of the project owner,

- reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate
- preparing a draft verification opinion based on the auditing findings and conclusions
- technical review of the draft verification opinion along with other documents as appropriate by an independent competent technical review team
- finalization of the verification opinion (this report)

Earthood Services Private Limited (ESPL) has verified and hereby certifies that the GCC project activity “Karaçayır Wind Power Project”

- a. has correctly described the Project Activity in the Project Submission Form (version 06 dated: 20/04/2022) including the applicability of the approved methodology AMS-I.D. Version 18.0 and meets the methodology applicability conditions, is additional and is expected to achieve the forecasted real and additional GHG emission reductions, complies with the monitoring methodology, has appropriately conducted local and global stakeholder consultation processes and has calculated emission reduction estimates correctly and conservatively;
- b. is likely to generate GHG emission reductions amounting to the estimated 23,011 tCO_{2e} per year as indicated in the PSF, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable GCC rules, including ISO 14064-2 and ISO 14064-3, and therefore requests the GCC Program to register the Project Activity;
- c. is not likely to cause any net-harm to the environment and/or society and complies with the Environmental and Social Safeguards Standard. the project level impacts are identified in the PSF for the Environmental and Social Safeguarding with E+ score as 6 and S+ score as 4. Adequate monitoring system is defined and is in-place to monitor these impacts throughout the crediting period. and therefore, requests the GCC Program to register the Project Activity, which is likely to achieve the requirements of the Environmental No-net-harm Label (E⁺) and the Social No-net-harm Label (S⁺); and
- d. is likely to contribute to the achievement of United Nations Sustainability Development Goals (SDGs), comply with the Project Sustainability Standard, and contribute to achieving a total of 4 SDGs, which is likely to achieve the Gold SDG certification label (SDG⁺). The project level SDG indicators are defined for each SDG contribution and there is a system in-place to monitor and verify the contribution throughout the crediting period.
- e. The Project Activity complies with all the applicable requirement of the GCC Program and ICAO’s requirements on CORSIA Emissions Unit Eligibility Criteria and CORSIA Eligible Emissions Units, as per Clarification No 1., v1.2 paragraph 21-23, and the ACCs expected to be issued during the crediting period is likely to be CORSIA eligible and can be used by International Airlines for offsetting their emissions during all phases of CORSIA and therefore requests GCC Steering Committee to append CORSIA Certification label (C+) to this project. The written attestation from the Host country on double counting shall be submitted by the project owner at ACCs issuance stage.

Appendix 1. Abbreviations

Abbreviations	Full texts
ACC	Approved Carbon Credits
AM	Approved Methodology
AMS	Approved Methodology for SSC Projects
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CH ₄	Methane
CL	Clarification Request
CM	Combined Margin
CO ₂	Carbon dioxide
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CP	Crediting Period
DR	Desk Review
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GW	Giga Watt
GWh	Giga Watt hour
HCLOA	Host Country Letter of Authorization (on double counting)
ICAO	International Civil Aviation Organization
IPCC	Intergovernmental Panel on Climate Change
Kw	kilo Watt
KWh	kilo Watt hour
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N ₂ O	Nitrous Oxide
OM	Operating Margin
PSF	Project Submission Form
PE	Project Emission
PLF	Plant Load Factor
PO	Project Owner
PS	Project Standard
RFR	Request for Registration
SDG	Sustainable Development Goal
tCO _{2e}	Tonnes of Carbon dioxide equivalent
TEİAŞ	Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A. Ş.)
UNFCCC	United Nations Framework Convention on Climate Change
V	Version
VS	Verification Standard
WPP	Wind Power Project
WTG	Wind Turbine Generator

Appendix 2. Competence of team members and technical reviewers

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Competence Statement			
Name	Harsh Raval		
Education	Bachelor of Engineering in Chemical Engineering Masters of Science in Environmental and Energy Engineering		
Experience	15 Years		
Field	Climate Change, Environment and Waste Management		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES (AMS-I.D, ACM0002)		
Local expert	YES (INDIA)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert (1.2)	YES		
Reviewed by	Deepika Mahala (Quality Manager)	Date	08/12/2021
Approved by	Ashok Gautam (Technical Manager)	Date	08/12/2021

Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AMS III.AR, AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B, ACM0016		
Local expert	YES (India)		
Financial Expert	YES		

Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Deepika Mahala	Date	13/01/2022
Approved by	Kaviraj Singh	Date	13/01/2022

Competence Statement			
Name	Fikriye Seda Atabek		
Education	M.Sc. Energy Science and Technology B.Sc. Chemical Engineer		
Experience	11 years		
Field	Energy Science and Technology		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	YES (Turkey)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Reviewed by	Deepika Mahala, Quality Manager	Date	22/12/2021
Approved by	Ashok Gautam, Technical Manager	Date	22/12/2021

Competence Statement			
Name	Muskan Chawla		
Education	M.Sc. Environment Science		
Experience	NA		
Field	Environment Science		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		

TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala	Date	09/03/2022
Approved by	Ashok Gautam	Date	09/03/2022

Competence Statement			
Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Gautam	Date	01/03/2018

Competence Statement			
Name	Kaviraj Singh		
Country	India		
Education	Ph.D. (Environmental Engineering), IIT Delhi Masters (Energy & Environmental), DAVV Indore		
Experience	15 Years +		
Field	Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-II.D., ACM0006, AMS-I.A., AMS-I.C., AMS-II.B., AMS-III.H, ACM0002, ACM0001, AM0080, ACM0018		
Local expert	YES (India)		
Financial Expert	YES		

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Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1, TA 13.2)		
Reviewed by	Shreya Garg	Date	12/02/2020
Approved by	Anshika Gupta	Date	12/02/2020

Appendix 3. Document reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Project Owner	Initial Project Submission Form webhosted for GSC	Version 04, dated 07/12/2021	Project Owner
2	Project Owner	Final version of Project Submission Form - being submitted to Request for Registration	Version 06, dated 20/04/2022	Project Owner
3	Project Owner	Final version of IRR sheet for the demonstration of financial additionality being submitted along with Request for Registration	Corresponding to final PSF, being submitted for requesting registration	Project Owner
4	Project Owner	Final version of Emission Reductions calculation sheet being submitted along with Request for Registration	Corresponding to final PSF, being submitted for requesting registration	Project Owner
5	Project Owner	Letter of Authorization as submitted to the GCC Secretariate	-	Project Owner
6	UNFCCC	Approved Small-Scale Baseline and Monitoring Methodology: AMS-I.D. Available on - https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTFQQOFQQH4SBK	Version 18	Others
7	UNFCCC	Tool 07: Tool to calculate the emission factor for an electricity system	Version 7.0	Others
8	UNFCCC	Tool 21: Demonstration of additionality of small-scale project activities	Version 13.1	Others
9	UNFCCC	Tool 27: Investment Analysis	Version 11	Others
10	UNFCCC	Tool 10: Tool to determine the remaining lifetime of equipment	Version 01	Others
11	GCC	GCC-Program-Manual	Version 3.1	Others
12	GCC	Project-Standard	Version 3.1	Others
13	GCC	Verification-Standard	Version 3.1	Others
14	GCC	Environment-and-Social-Safeguards-Standard	Version 02	Others
15	GCC	Project-Sustainability-Standard	Version 02	Others
16	GCC	Project Submission Form (PSF)-Template	Version 03.2	Others
17	ESPL	Remote audit and Interviews conducted for the verification of project activity details, implementation, monitoring and local stake holder's consultation by assessment team through video meeting interface	29/12/2021	Others
18	UNFCCC	Tool to calculate project or leakage CO2 emissions from fossil fuel combustion	Version 03.0	Others

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19	Turkey Energy and Natural Resource Ministry	Calculated grid emission factor for Turkish National Grid	Published on 06/10/2021	Project Owner
20	Ministry of energy and natural resources	Provisional Acceptance certificates (Commissioning Document)	September - October, 2016	Project Owner
21	Directorate of Environment and Forestry, Tokat Province	Approval regarding EIA exemption for the Karaçayır Wind Power Project	First approval letter 04/05/2009 and subsequent communications	Project Owner
22	Turksoy Enerji Muhendislik Ve DanisManlik Ltd. Sti.	Wind and Energy Yield Assessment report for Karaçayır WPP	May, 2015	Project Owner
23	T.R. Energy Market Regulatory Authority	Regulatory License issued for the project activity	14/06/2011	Project Owner
24	Project Owner	Land use permission documents for project activity	2014-15	Project Owner
25	Project Owner	Email written by project owner to various government agencies and other organizations for stake holder's consultations	05/10/2021	Project Owner
26	Project Owner	1. Feedback / evaluation forms received from the local stakeholders and as also translated in English 2. Signed attendance form for feedback submission	Various	Project Owner
27	Camlibel Elektrik Dagitim AS (Grid company)	Grid Connection Agreement	20/03/2014	Project Owner
28	Third party experts Prof. Dr. Ali Erdogan (Ornithologist) Dr. Tamer Albayrak (Ornithologist) Dr. Tarkan Yorulmaz (Bat Expert) Devrim Yetkin (Biology)	Ornithology report prepared for the project activity site	2015	Project Owner
29	Project Owner	Turbine agreement with Gamesa Eolica S.L.	03/07/2015	Project Owner
30	Directorate of Environment and Forestry, Tokat Province	Co-ordinates issued for the project activity locations	-	Project Owner
31	Project Owner	O&M agreement with GAMESA RUZGAR ENERJISI SERVIS LIMITED SIRKETI for the project activity	03/07/2015	Project Owner
32	European Bank for Reconstruction and Development	Mid-size Sustainable Energy Financing facility - evaluation report	April, 2015	Others

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33	World Bank	Implementation Completion and Results Report on Clean Energy Fund Loan (Turkey specific)	June, 2017	Others
34	Project Owner	Photos of project activity site consisting of WTGs, site installation and meters	-	Project Owner
35	Google Inc	Web access for Google earth satellite imaginary	-	Others
36	Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A. Ş. (TEİAŞ))	Electricity Market Law Link: https://www.epdk.gov.tr/Detay/Icerik/3-0-0-2256/kanunlar To verify the feed in tariff	Last Accessed: 01/04/2022	Project Owner
37	Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A. Ş. (TEİAŞ))	Law on utilization of renewable Energy resources for the purpose of Generating electricity Energy, Law number 5346: Link: https://www.epdk.gov.tr/Detay/Icerik/3-0-0-2256/kanunlar	Last Accessed: 01/04/2022	Project Owner
38	Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A. Ş. (TEİAŞ))	Energy efficiency Law number 5627 Link: http://www.fao.org/faolex/results/details/en/c/LEX-FAOC120779	Last Accessed: 01/04/2022	Project Owner
39	Government of Turkey	Forest Law number 6831 Link: https://www.mevzuat.gov.tr/MevzuatMetin/1.3.6831.pdf	Last Accessed: 01/04/2022	Project Owner
40	Government of Turkey	Environment Law number 2872, Link: https://www.mevzuat.gov.tr/mevzuatmetin/1.5.2872.pdf	Last Accessed: 01/04/2022	Project Owner
41	Presidency of the Republic of Turkey Investment Office	Energy Sector Investment Processes Guide, Link - https://www.invest.gov.tr/tr/Documents/3.Enerji%20Sekt%C3%B6r%C3%BC%20Yat%C4%B1r%C4%B1m%20S%C3%BCre%C3%A7leri%20Klavuzu.pdf	Last Accessed: 01/04/2022	Project Owner
42	Project Owner	Email from Barry Kolodkin, Senior Evaluation Manager on EBRD report - tax consideration	26/02/2022	Project Owner
43	National Renewable Energy Laboratory	2013 – Cost of Wind Energy Review, available at: https://www.nrel.gov/docs/fy15osti/63267.pdf	February, 2015	Project Owner
44	Government of Turkey	Law on the use of Renewable Energy Resources for the purpose of Generation of Electrical Energy', Law No – 5346 https://www.epdk.gov.tr/Detay/DownloadDocument?id=JO0aAUcBJ	10/05/2005	Project Owner

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		RM=		
45	Private Source	Depreciation of Wind turbine, cables and assets: https://www.gulbenkmusavirlik.com/yazdir.php?PageID=7234	Last Accessed: 01/04/2022	Project Owner
46	Trending Economics	Turkish Lira valuations: https://tradingeconomics.com/turkey/currency	Last Accessed: 01/04/2022	Others
47	Government of Turkey	Measuring and Metering equipment inspection regulation	Article 9 – (Amended:OG-15/12/2019-30979)	Project Owner
48	Project Owner	Sample employment proof (Social security insurance records) of 8 employees	-	Project Owner
49	Project Owner	Sample records of the various HSE and other trainings conducted for project activity sites	April - June, 2021	Project Owner
50	Turkish Electricity Transmission Corporation (Türkiye Elektrik İletim A. Ş. (TEİAŞ))	Annual Development of Electricity Generation – Consumption and Losses in Turkey Available at: https://webapi.teias.gov.tr/file/512c-bf1d-0ca3-4492-b901-3722c7b682f7?download	-	Project Owner
51	Energy Markets Management Company (EPIAS)	Spot and historical energy prices: https://rapor.epias.com.tr/rapor/xhtml/ptfSmfListeleme.xhtml	Last Accessed: 17/04/2022	Others

Appendix 4. Clarification request, corrective action request and forward action request

Total Numbers of Findings		
CARs	CLs	FARs
01	06	-

Table 1. CLs from this Project Verification

CL ID	01	Section no.	Report Section D.1, D.2, D.3.1	Date :	16/01/2022
Description of CL					
<ol style="list-style-type: none"> 1. It is requested to provide project ownership related documents including the GCC project/ACCs ownership claim. Further brief information regarding the project owner is not provided in the PSF. 2. Specific identification of WTG wise geo-coordinates are not provided under section A.2. 3. Section B.2 of PSF under methodology applicability criteria mentions that electricity will be exported to grid as well as sell to third party. Please clarify 4. The PO needs to confirm/declare the No-participation in any other carbon scheme as well as the No-ODA funding. 					
Project Owner response					Date : 09/02/2022
<ol style="list-style-type: none"> 1. Project ownership proof has been provided. 2. Coordinates have been converted to DMS form. 3. The term "sell to third party" has been deleted from the related part of the PSF. 					
Documentation provided by Project Owner					
LoA document					
GCC PROJECT VERIFIER assessment					Date: 07/03/2022
<ol style="list-style-type: none"> 1. The information regarding project owner is now added under section A.1. Also letter of authorization submitted to the GCC has been provided by the PO. OK 2. The coordinates format has been revised and also turbine wise coordinates have been provided under cover page of the PSF. OK 3. A declaration regarding no ODA and non-participation under other carbon programs has been submitted by the project owner. OK 					
Closed.					
CL ID	02	Section no.	Report section D.3.5	Date :	16/01/2022
Description of CL					
<p>The benchmark is selected from the EBRD review report. The IRR mentioned by EBRD is based on projects financed by participating 4 Banks.</p> <p>A details justification is required from project owner that how the selected benchmark is appropriate, conservative and broadly covers project specific (wind) national scenario for financing?</p>					

Further, it needs to be clarified if it is a pre-tax or post tax consideration. The PSF also mentions it as local commercial lending rate, which needs to be justified.	
Project Owner response	Date : 09/02/2022
<p>Since Turkey is not listed in the Appendix of TOOL27: Investment Analysis version 11, Benchmark selection is based on similar studies which were carried out for Turkey. EBRD review report is one these studies and that is why the benchmark which was determined in EBRD’s study for Turkey was being based on for the selection of Project IRR.</p> <p>On the other hand, there is an another study, that is also developed for Turkish Renewable Energy and Energy Efficiency projects, which was carried out by the World Bank. (https://documents1.worldbank.org/curated/en/799701498842988254/pdf/ICR00004069-06192017.pdf) In this study, used data set belongs to the year of project activity’s start date. Moreover, in this study the benchmark was calculated as 15% as well. Considered benchmark in PSF is appropriate as per market condition and is prevailing practice since both in EBRD’s and WB’s reports benchmark IRR was given as 15% for Turkey. In other words, this value is in consistent in the reports prepared by esteemed experts of respected organizations.</p> <p>World Bank’s this referenced report was/is being used as a reference document for the selection of benchmark IRR in lots of GS&VERRA projects and approved Turkish GCC projects as well.</p> <p>Consequently, selected benchmark IRR is appropriate and conservative and broadly covers project specific (wind) national scenario for financing.</p> <p>The benchmark is confirmed to be pre-tax. One of the analysts of the EBRD report has confirmed that tax values were not considered in their calculation of the benchmark IRR. The IRR has been revised accordingly.</p>	
Documentation provided by Project Owner	
<p>Report from World Bank for “IMPLEMENTATION COMPLETION AND RESULTS REPORT ON INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT LOAN AND CLEAN TECHNOLOGY FUND LOAN.</p> <p>Screenshot of the e-mail thread with Barry Kolodkin, one of the analysts who prepared the report.</p>	
GCC PROJECT VERIFIER assessment	Date: 07/03/2022
<p>The Project owner has provided the justification for the considered benchmark. The EBRD report which cover study of 9 wind power project financed in the same time period of project considers bases of RE project investment return IRR as 15%. The PO has further submitted a report from World Bank, which use the data of the year of 2016 (same period as project commission period). The report considers the return on equity for wind power projects in Turkey as 15%. The both reports are from reputed banking institutes having experience in the Turkey RE project financing. Further both have studies the data from projects having same period of the project activity decision making and commissioning (i.e.2015 – 2016). Thus, considered benchmark seems appropriate and accepted.</p> <p>Also the benchmark is confirmed to be pre-tax. One of the analysts of the EBRD report has confirmed that tax values were not considered in their calculation of the benchmark IRR.</p> <p>OK</p>	

CL ID	03	Section no.	Report Section D.3.5	Date : 16/01/2022
Description of CL				
<p>The Project Owner is requested to clarify following points in order to present the investment analysis transparently and accurately.</p> <ol style="list-style-type: none"> 1. It is requested to confirm the investment decision date for the project in line with project chronology and clarify the availability of all input values at the time of investment decision specifically turbine cost, O&M cost and tariff rates. 				

2. Apart from the WTG costs, all other costs for project like Electrical Infrastructure, Engineering Management and Development, Contingency and Construction Finance, Site Access, Staging and Facilities, Other related costs are consider based on percentage assumptions based on a 2013 review report from National Renewable Energy Laboratory, USA. The report mentions the specific percentage of other costs with regards to the turbine cost. It is requested to clarify how assumption made in the report is suitable and appropriate to Turkey as the report is based on US market study. Although the turbine cost is about 75% of the total cost and rest is 25%, what are the likely scenario of deviations in actual conditions from the assumptions made.
3. The tariff observed from the government rates in the Turkey wind project are generally 73 USD/MWh. However, the PO has considered 77.8 USD/MWh. The applicability of same needs to be confirmed.
4. Please also clarify the different tariff considered after 10 years and its source and availability at the time of investment decision making. Please confirm if average spot price of 2016 is appropriate assumption for the rates after 10 years.
5. Please provide supporting for Transmission loss, insurance.
6. The Project owner has incurred the project cost in the first (0th) year. i.e. 2015. Please clarify, how it is conservative and appropriate in accordance with project scenario, where the decision is made in July 2015, while the revenue is considered for the last Quarter of 2016 only.
7. The PO has calculated the post-tax equity IRR, please confirm if it is comparable to the chosen benchmark, which seems pre-tax.

Project Owner response	Date : 09/02/2022
<p>1.The date of the turbine agreement is determined as the investment decision date. In Turkey, the relevant laws and regulations lay out the process for investment in renewable energy projects. The first three steps of the investment process include application for license, striking the connection agreement and obtaining an EIA relief or and EIA positive decision. In order to obtain the license, an EIA decision is required. Investors first apply for the pre-license (valid for 24-36 months) and then apply for the generation license – and obtain the EIA decision during the process. When the generation license is granted to the investor, the agreement for the connection agreement is made. After the aforementioned steps are approved, the investors start preparing the construction plan which also includes the purchase of the necessary equipment – the turbine agreement in the case of the project. Because even if all of the steps until the construction were taken without any issue, the project might not still be actualized without the purchase of the turbines. Thus, the fact that the project’s investment date has been determined as the date of the turbine agreement.</p> <p>The relevant documents for turbine agreement and O&M costs were provided to the GCC Verifier while sending the first version of this PSF. However, it has been provided again upon request.</p> <p>2. A paper from Turkey analyzing turbine costs, dating back to 2015, includes the costs of three wind turbine systems with low rated powers. According to the paper, the Nordex-43 turbine, with a rated power of 600 kW, cost about 2.5 million Turkish Liras in 2015. In Euros, this figure was 837,661.25, with respect to the corresponding exchange rates of the investment decision date – retrieved from Turkey’s Central Bank.</p> <p>The Karaçayır project includes six G114 turbines, and each of them has a rated power of 2,100 kW (2.1 MW). Each turbine in the Karaçayır project is 3.5 times higher than the Nordex-43 turbine mentioned in the research paper. If the cost of one Nordex 43 turbine with 600 kW rated power is 837,661.25 EUR, then a simple ratio and proportion calculation can provide us with an approximate cost of the G114 turbines which has been calculated as 17,590,886.25 EUR. Moreover, this assumption can also be considered as low because the G114 turbine is much more powerful than the Nordex-43 one.</p> <p>Our analysis used very conservative figures from the U.S. report. In the analysis, solely the wind turbine cost about 11.5 million EUR and the total investment costs amount to 15.6 million EUR. Either way, the</p>	

closest assumption from Turkey for 2015 is higher than both values.

Furthermore, the paper’s cost breakdown also coincides with the U.S. report’s breakdown. In Section 2.3. of the paper it is stated that “the total cost consists of wind turbines (70-75%), construction and installation (20-25%), project and consultation (3-4%) , maintenance and reparation (2-3%), and other costs that may arise during investment (3%).” This is in line with the report used for the assumptions.

Hence, the use of the NREL report has been justified.

3.The tariff rate has been revised as 73 USD/MWh.

4. The price of electricity after 10 years has been revised with the average of 2012, 2013, and 2014’s average spot prices. Thus, the price of electricity in terms of EUR has increased, making the IRR more conservative.

5. Reference for the transmission loss has been added to the IRR. As for the insurance cost, it is an assumption – as it was written in the IRR calculation sheet. That’s why, there is no supporting document for insurance to provide.

6. Since the turbine purchase agreement was signed in 2015, decision date of the project was taken as 2015. For this reason, repayments of the equipment costs started in 2015. The repayment term was taken as 2015 only. On the other hand, the revenue was considered to start in the last Quarter of 2016 since the project started its operation in Q4 of 2016 and from that time on project started generating electricity and selling it to the national grid. That is why start date of revenue was considered in the last Quarter of 2016. The IRR has been revised with 75 percent share of equipment costs in 2015 and the remaining 25 percent in 2016.

7. The benchmark IRR has been confirmed to be pre-tax. The project’s IRR has also been revised as pre-tax.

Documentation provided by Project Owner.

1. Please see “Presidency of the Republic of Turkey Investment Office, Energy Sector Investment Processes Guide, Diagram 3.2., p. 27”
<https://www.invest.gov.tr/tr/Documents/3.Enerji%20Sekt%C3%B6r%C3%BC%20Yat%C4%B1r%C4%B1m%20S%C3%BCre%C3%A7leri%20Klavuzu.pdf>
2. Turbine purchase agreement
3. O&M agreement
4. Arslan, Ö. (2015). THE ANALYSIS OF WIND DATA WITH RAYLEIGH DISTRIBUTION AND OPTIMUM TURBINE AND COST ANALYSIS IN ELMADAĞ, TURKEY . IU-Journal of Electrical & Electronics Engineering , 15 (1) , 1907-1912 . Retrieved from <https://dergipark.org.tr/tr/pub/iujeee/issue/9361/117080>

GCC PROJECT VERIFIER assessment

Date: 07/03/2022

1. The project owner has explained the project approval and implementation process. However, it is still requested to clarify if project owner has an option to not to go ahead with the project after obtaining the EIA approval or the license. And financial viability of the project was checked after getting license before the placing the agreement for turbine?
 The idea is – investment analysis tool requires all the input values considered at the time of project investment decision. The project owner may wish to refer to Para 10 of the Investment analysis tool – Toll 27 for reasoning behind the same.
 The project owner needs to justify the timing of investment analysis done by them along with availability of the input data at that time. For example – the purchase order/ agreement may not be available with them at the time of checking viability of the project, prior to making an agreement. OPEN
2. The PO has justified the values considered from NREL report. Accepted.
3. The tariff has been revised to the applicable value. OK.
4. The PO has changed the tariff values to the most recent available value at the time or proposed investment decision date. OK. However, description in the IRR sheet has not been changed yet. Request to change the same.

<p>5. The PO has clarified the transmission loss and insurance cost. OK</p> <p>6. The PO has divided the cost bearing as 0.75/0.25 in the initial years, which seems to be justified in line with actual scenario. OK</p> <p>7. The PP has revised the IRR as pre-tax which is in accordance with the Benchmark. Ok</p>	
Project Owner's Response:	Date: 10/03/2022
<p>The date of the turbine agreement is determined as the investment decision date. In Turkey, the relevant laws and regulations lay out the process for investment in renewable energy projects. The first three steps of the investment process include application for license, striking the connection agreement and obtaining an EIA relief or and EIA positive decision. In order to obtain the license, an EIA decision is required. Investors first apply for the pre-license (valid for 24-36 months) and then apply for the generation license – and obtain the EIA decision during the process.</p> <p>According to the investment procedures in Turkey, the investors first need to obtain an EIA relief or positive decision for the pre-license. After the pre-license's waiting period is concluded, then the investors are granted with the full generation license. The time generation license covers varies between 10 to 49 years. However, the state's common practice is to provide the license for 49 years because the renewable energy projects require millions of euros of investment. Gathering this kind of investment from loans or even the investor's own equity takes time. That's why the generation license is granted for a long period of time. If the licensed plant is not constructed within the allocated construction period, the license is cancelled.</p> <p>The licensing process is followed by the investor's own financial and investment analysis. After this analysis is concluded, the investor takes the necessary decision and signs the agreement with the supplier firm. Without this agreement, the project will not be actualized. And for this agreement to be signed, the investor makes the necessary analyses for their investment.</p> <p>All of the input data were available before the turbine agreement. The feed-in tariff is determined via a regulation, which was put into effect in 2015. The average spot prices are listed in the Energy Market Regulation Authority's yearly reports. The report for 2014 was published in 2015 and the 2013 report was published in 2014 and so on. Because the latest available data was published in 2015, the average spot prices for 2014 was included in the investment analysis. Furthermore, all of the data are listed and updated as soon as it is published in the tables of EPIAŞ's corresponding platform.</p>	
Documents Provided by Project Owner	
<p>1. Please see "Presidency of the Republic of Turkey Investment Office, Energy Sector Investment Processes Guide, Diagram 3.2., p. 27" https://www.invest.gov.tr/tr/Documents/3.Enerji%20Sekt%C3%B6r%C3%BC%20Yat%C4%B1r%C4%B1m%20S%C3%BCre%C3%A7leri%20Klavuzu.pdf</p> <p>2. EMRA Reports 2014 http://www.epdk.gov.tr/Detay/DownloadDocument?id=Uo5og7ZS2pc= 2013 https://www.epdk.gov.tr/Detay/DownloadDocument?id=B5tXeDkk6Rk= EPIAŞ Platform https://rapor.epias.com.tr/rapor/xhtml/ptfSmfListeleme.xhtml</p>	
GCC Verifier's Assessment:	Date: 25/03/2022
<p>The project owner has clarified and explained the project development process in Turkey for the renewable energy-based power generation.</p> <p>Based on review, it can be said that prior to signing the turbine agreement, the PO has option to not to go for the project and real first action for the project started with turbine agreement on 03/07/2015.</p> <p>This it can be considered that prior to this date, the analysis was done by the project owner and</p>	

investment decision was made based on recent input parameters available at that time horizon.

CL ID	04	Section no.	Section D.3.6	Date : 16/01/2022
Description of CL				
<ol style="list-style-type: none"> 1. The data sources to calculate the grid emission factor for Power plants in sheet are not clear. Links provided from www.teias.gov.tr in the excel sheet for data verification are not working. PO needs to update the same. As per the completeness check guidelines, all the weblinks provided in the PSF must be accessible/working. 2. The tool allows project owner to exclude the project registered as CDM project in BM calculation. However, the project owner has also excluded the VCS and GS projects from the consideration. Please clarify the appropriateness. 3. The PO needs to clarify appropriateness of the data vintage consider in calculation of OM & BM in accordance with the guidance. 4. The project has considered 35,500 MWH in calculation of emission reductions and also considers the project activity emissions as Nil. Please clarify, if the considered amount is Net electricity generated (Gross – inhouse) by the WTGs after internal consumption? 				
Project Owner response				Date : 09/02/2022
<p>1.The links have been fixed.</p> <p>2-3.The calculation of OM and BM values, and consequently the CM value, has been updated as the most recent data during the submission of the PSF was the Energy and Natural Source's Ministry's factsheet for emission factors. (published on October 2021)</p> <p>The emission factor values are directly obtained from the factsheet.</p> <p>4. This value was taken from the generation license of the project. And in this study, this amount was estimated as net electricity.</p>				
Documentation provided by Project Owner				
Revised PSF				
GCC PROJECT VERIFIER assessment				Date: 07/03/2022
<ol style="list-style-type: none"> 1. The links are updated in the revised PSF 2. The grid emission factor has been updated in the PSF in accordance with the TOOL 7, which requires latest available data to be used at the time of submission to the validation / project verification. The project owner has taken combine margin emission factor from the nationally published data. Ok 3. The value for estimated generation is checked with the generation license as well as energy yield report, OK <p>Closed.</p>				

CL ID	05	Section no.	Section D.10, D.11	Date : 16/01/2022
Description of CL				
<ol style="list-style-type: none"> 1. The project owner is requested to further justify more or provide documentary evidence to prove the score (+1) considered in case of 'Generation of Waste water' and Protecting/ enhancing species diversity. 2. Since the project is already implemented A2 type project, Project owner is requested to provide substantial evidence for long term employment/income generation and job training 3. Further justification is required for the score (+1) considered in case of Reducing / increasing accidents 				
Project Owner response				Date : 09/02/2022
<ol style="list-style-type: none"> 1. For the generation of water parameter, the photographic evidence of the septic tank in which domestic wastewaters are collected and wastewater disposal records are provided to the VVB. For 				

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<p>protecting/enhancing species diversity, the project is already not located on an area which is migration route of the birds. Moreover, there is lighting system in the turbines which red light is on at nights and white light is on in the daytime. In this way possible striking of the birds is eliminated. This information was also given in the project specific ornithology report. (pg 104).</p> <p>2. Required evidences are provided to GCC Verifier now.</p> <p>3. Further justification is now provided for the parameter of Reducing / increasing accidents</p>	
<p>Documentation provided by Project Owner</p>	
<p>1. Ornithology report of the project. Domestic waste water disposal record and photographic evidence of septic tank in the project area.</p> <p>2. Employment & Training records</p>	
<p>GCC PROJECT VERIFIER assessment</p>	<p>Date: 07/03/2022</p>
<p>1. The PO has clarified the considered point. Accepted</p> <p>2. Employment related documents has been provided and also verified during RSV. Ok</p> <p>3. Training related documents has been provided by the project owner and this information also verified during RSV. Ok</p> <p>However, As per the recent clarification from the GCC, the Project owners need to monitor identified impacts of each and every parameter (positive and Negative) in the monitoring plan with frequency defined. The same will be checked during the monitoring period for their compliance with PSF/Government regulation. In doing so the project owner may use the table format provided under E+/S+ safeguarding standard and use it under section B.7.2. So impact identified like below needs to be monitored by the project owner</p> <ul style="list-style-type: none"> - Noise pollution, SW/ HW, Protecting birds, Jobs created, training records etc - Same way the impact of SDG Goal achieved should be monitored and linked with their impacts on E+ S+ criterial. For example, PO is claiming SDG goal for air quality in terms of PM2.5/PM10 emissions, however this impact is not covered in relevant sections of the E+. 	
<p>Project Owner's response:</p>	<p>Date: 10/03/2022</p>
<p>The necessary data and parameters to be monitored are added to the relevant section. The tables under the Environmental and Social Safeguards have been updated accordingly.</p>	
<p>Information provided by Project Owner</p>	
<p>Revised PSF</p>	
<p>GCC Verifier's Assessment</p>	<p>Date: 25/03/2022</p>
<p>The PO has done the necessary changes in revised PSF and has added all the impact parameters in the monitoring. Further impacts and Goals are also linked.</p> <p>Closed.</p>	

CL ID	06	Section no.	Section D.6	Date : 16/01/2022
<p>Description of CL</p>				
<p>Project owner is requested to clarify if is there any govt restriction or regulation in place on gathering of people for LSC, as no meetings has taken place. Is there any still restriction in place till he submission of project for verification? Further, please provide documentary evidence information notes/forms sent to the various institution as mentioned in the PSF.</p>				
<p>Project Owner response</p>				<p>Date : 09/02/2022</p>
<p>Currently, there is no any governmental restriction on traveling across the country. However, there is no strict rule of the GCC that says that LSC should be conducted onsite as long as the requirements of LSC are met remotely or onsite. Since pandemic still continues, it was thought that LSC requirements can be</p>				

met remotely to reduce the risk of contamination of Covid-19. An evidence email that was sent by GCC regarding the eligibility of remote LSC procedure is provided.	
Documentation provided by Project Owner	
LSC supporting documents	
GCC PROJECT VERIFIER assessment	Date: 07/03/2022
LSC evidence have been provided by the PO and checked. Further it was also verified during the site visit and few local stakeholders were also interview. It was confirmed that project related aspects were indeed conveyed to the stakeholder's and their opinion was sought and taken into consideration. Accepted.	

Table 2. CARs from this Project Verification

CAR ID	07	Section no.	Section D.3.7	Date : 16/01/2022
Description of CAR				
1. Project owners needs to correct the monitoring equipment details mentioned for the parameters used to quantify the SDG impacts.				
Project Owner response				Date : 09/02/2022
Necessary revisions were made accordingly.				
Documentation provided by Project Owner				
Revised PSF				
GCC PROJECT VERIFIER assessment				Date: 07/03/2022
The PO has made the necessary changes in the parameter's description. However, indicators related to all impacts of E+, S+ and SDG+ needs to be identified and monitoring in the monitoring section. Open				
Project Owner response			Date : 10/03/2022	
Parameters are added now in monitoring section.				
Documentation provided by Project Owner				
Revised PSF				
GCC PROJECT VERIFIER assessment			Date: 25/03/2022	
The PO has added adequate monitoring mechanism for all the impacts in the PSF. OK Closed.				

Table 3. FARs from this Project Verification

FAR-ID	NA	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project Owner's response				Date: DD/MM/YYYY
Documentation provided by Project Owner				

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GCC Project Verifier assessment	Date: DD/MM/YYYY
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Appendix 5. Environmental safeguards assessment

Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards									Project Owner's Conclusion		GCC Verifier's Conclusion	
		Description of Impact (both positive and negative)	Legal requirement / Limit	Do-No-Harm Risk Assessment			Risk Mitigation Action Plans		Do-No-Harm Residual Risk Assessment		Self-Declaration		3 rd Party Audit	
				Not Applicable (No actions required)	Harmless (No actions required)	Harmful (Actions required)	Operational Controls	Program of Risk Management Actions	Re-evaluate Risks	Monitoring	Explanation of Conclusion	The Project Activity will not cause any harm	Verification Process	Will the Project Activity cause any harm?
<p>Environmental impacts on the identified categories⁶ indicated below.</p>	<p>Indicators for environmental impacts</p>	<p>Describe anticipated environmental impacts, both positive and negative from all sources (stationary and mobile), that may result from the Project Activity, within and outside the project boundary, over which the Project Owner(s) has control, and beyond what would reasonably be expected to occur in the absence of the Project Activity.</p>	<p>Describe the applicable national regulatory requirements /legal limits related to the identified risks of environmental impacts.</p>	<p>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 (No actions required)</p>	<p>If environmental impacts are anticipated, but are expected to be in compliance with applicable national regulatory requirements / below the legal limits, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Harmless (No actions required)</p>	<p>If environmental impacts are anticipated that will not be in compliance with the applicable national regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm (may be un-safe) and shall be indicated as Harmful (Actions required).</p>	<p>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.</p>	<p>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 the risk of impacts that have been identified as Harmful.</p>	<p>Re-evaluate risks after Risk Mitigation Action Plans have been developed (refer to previous two columns) for impacts that have been identified as Harmful. Indicate whether the risks have been eliminated or reduced and, where appropriate,</p>	<p>Describe the monitoring approach and the parameters to be monitored for each impact that has been identified as Harmful and described in the PSF (refer to Table 3).</p>	<p>Describe how the Project Owner has concluded that the Project Activity is likely to achieve the identified Risk Mitigation Action Plan targets for managing risks to levels that are unlikely to cause any harm.</p>	<p>Confirm that the Project Activity risks of negative environmental impacts are expected to be managed to levels that are unlikely to cause any harm (Mark +1 for Yes or and -1 for No)</p>	<p>Describe how the GCC Verifier has assessed that the Project Activity has adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm.</p>	<p>Confirm whether the Project Activity is expected to manage risks of negative environmental impacts to levels that are unlikely to cause any harm (Mark +1 for Yes or and -1 for No)</p>

⁶ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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													<p>generated in baseline thermal power plants and that would have emitted some amount of SOx emissions.</p> <p>The Project Owner has not wished to identify the same and being it an overall positive impact, accepted by the assessment team.</p>	
N/A	20 kg /hr ²⁸	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<p>There will be no NOx emissions or risk from the project being it wind power project.</p> <p>However, the Assessment team feels that project activity does have an unquantifiable positive impact on NOx emissions as otherwise same amount of electricity would have been</p>	-

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													<p>generated in baseline thermal power plants and that would have emitted some amount of Sox emissions.</p> <p>The Project Owner has not wished to identify the same and being it an overall positive impact, accepted by the assessment team.</p>	
	CO ₂ emissions	The project reduces CO2 emissions since it reduces the amount of fossil fuel used. In case of "no project",	N/A	N/A	-	-	N/A	N/A	N/A	The electricity generation will be monitored	In the baseline scenario (grid) some of the fossil fuel power plants may have emitted CO2 emissions, which has been calculated by the combined margin emission factor. Therefore, emission reductions are expected to be reduced which will be regularly monitored and verified	+1	<p>The project activity reduces CO2 emissions by displacement of same amount of electricity generation through fossil fuel-based plants in baseline.</p> <p>The CO2 emission reductions are being monitored</p>	+1

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											ex -post and therefore is eligible to be scored.			
	CO emissions	N/A	50 kg/hr ²⁸	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	<p>There will be no CO emissions or risk from the project being it Wind power project.</p> <p>However, the Assessment team feels that project activity does have an unquantifiable positive impact on CO emissions as otherwise same amount of electricity would have been generated in baseline thermal power plants and that would have emitted some amount of CO emissions.</p> <p>The CO is generally emitted from the coal based powerplant which are also very</p>	-

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													minimal in Turkey. The Project Owner has not wished to identify the same and being it an overall positive impact, accepted by the assessment team.	
	<i>Suspended particulate matter (SPM) emissions</i>	With the implementation of the project activity, the annual mean levels of PM 2.5 and PM 20 emissions are reduced.	For PM10 300 µg/m3. There are no currently set limits for PM2.5. ⁷	N/A	-	-	N/A	N/A	N/A	The amount of PM2.5 and PM10 emissions decreased will be monitored.	As known, fossil fuel emissions are secondary sources of PM2.5 and PM10 in the cities. Since the project reduces the use of fossil fuels, PM2.5 and PM10 formation will be reduced accordingly. Hence, the project helps to improve air quality in cities. Corresponding PM2.5 reduction for Karacayir WPP was	+1	Being a Wind power project, there will be reduction in emissions of PM2.5 and PM10 into air as project activity also displaces the generation from fossil fuel-based plant in baseline. Contribution to the PM2.5 and PM10 emission reductions is being monitored	+1

⁷[https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=12188&mevzuatTur=KurumVeKurulusYonetmeligi&mevzuatTertip=5#:~:text=MADDE%201%20%E2%80%93%20\(1\)%20Bu,yi%20oldu%C4%9Fu%20yerlerde%20mevcut%20durumu](https://www.mevzuat.gov.tr/File/GeneratePdf?mevzuatNo=12188&mevzuatTur=KurumVeKurulusYonetmeligi&mevzuatTertip=5#:~:text=MADDE%201%20%E2%80%93%20(1)%20Bu,yi%20oldu%C4%9Fu%20yerlerde%20mevcut%20durumu)

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											calculated as 0.01 µg/m3 while the corresponding PM10 reduction was found as 0.02 µg/m3 for baseline, annually.			
	<i>Fly ash emissions</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	There will be no Fly Ash emissions or risk from the project being it Wind power project. However, the Assessment team feels that project activity does have an unquantifiable positive impact on Fly ash emissions as otherwise some amount of electricity would have been generated in baseline from COAL based thermal power plants and that would have emitted some	-

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													<p>amount of Fly Ash emissions.</p> <p>The Fly ash is emitted from the coal based powerplant which are also very minimal in Turkey.</p> <p>The Project Owner has not wished to identify the same and being it an overall positive impact, accepted by the assessment team.</p>	
	<p>Non-Methane Volatile Organic Compounds (NMVOCs)</p>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	<p>There will be no NMVOC emissions or risk from the project being it Wind power project.</p> <p>However, the Assessment team feels that project activity does have an unquantifiable positive impact on NMVOC emissions as otherwise same amount of</p>	-

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													<p>electricity would have been generated in baseline thermal power plants and that would have emitted some amount of NMVOC emissions.</p> <p>The NMVOC is generally emitted from the Solid fossil fuel powerplant which are also very minimal in Turkey.</p> <p>The Project Owner has not wished to identify the same and being it an overall positive impact, accepted by the assessment team.</p>	
	<i>Odor emissions</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	<p>There is no risk of odor emission as project activity is a Wind power plant</p>	-
	<i>Noise Pollution</i>	Noise values could be generated from Karaçayır	Regulation on the Ambient Noise Evaluation	-	Harmless	-	N/A	N/A	N/A	During the future emission reduction verification	Due to the fact that the distance (500m Semerci and 3 km	<i>Noise Pollution</i>	<p>The project owner has mentioned that local settlement / village are</p>	+1

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		WPP, fall below the limit values specified in the "Evaluation of Environmental Noise and Management Regulation". The nearest settlements are Semerci and Karaçayır Villages which are located in the northwest and the south of the plant respectively and the noise could be transmitted to those villages were calculated 30 and 0 dbA. respectively (Which is already lower than the regulated limit)	n and Control has the limit of 70 DbA.							procedures' site visits within this crediting period, interviews with local people will be considered.	Karaçayır village) between nearest settlement and nearest turbine to that settlement is long and transmitted noise is quite below than the regulated limit, it is expected that noise will be significantly low from the project activity.		far from the project activity and WTG noise is not impacting it. They have also monitored the data during initial period and shall be periodically monitoring to analyze that impact is under control or regulation Parameter also added in monitoring parameter list	
Environment - Land	<i>Solid waste Pollution from Plastics</i>	There may be plastic wastes generated at the end of domestic use at the project site. Those wastes are properly	According to the Solid Waste Regulation, domestic solid wastes shall be collected in closed	N/A	-	-	N/A	N/A	N/A	N/A	No significant plastic waste is expected from the project activity during operational phase.	N/A	There is no major envisaged plastic waste generation from the project activity and assessment team do not foresee	-

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		stored and disposed.	trashes and disposed by the municipality.										any such impacts	
<i>Solid waste Pollution from Hazardous wastes</i>	There may be oil wastes generated at the project site. Waste oil is disposed via licensed recycling firms.	According to the "Waste Oil Control Regulation", waste oil shall be taken by the licensed recycling firms.	-	Harmless	-	N/A	N/A	N/A	The records for the transfer of the wastes will prove the disposal of hazardous wastes.	As hazardous wastes shall be transported by licensed transporters to the licensed processing and disposal facilities, the records for the transfer of the wastes will prove the disposal.	N/A	Any waste oil generated from the ETG/ transformers etc. will be stored safely discarded through licensed agency. Being WTG project, the amount will not be much and is expected to have minimal impact. The project owner has not scored the same and accepted.	-	
<i>Solid waste Pollution from Bio-medical wastes</i>	There is no medical waste generated at the project site.	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable for the project activity	-	
<i>Solid waste Pollution from E-wastes</i>	There is no e-waste generated at the project site.	N/A	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable for the project activity / No risk identified	-	
<i>Solid waste</i>		N/A	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	There will no use or	-	

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	<i>Pollution from Batteries</i>	There is no battery waste generated at the project site.											discharge of batteries for the project. No risk identified	
	<i>Solid waste Pollution from end-of-life products/ equipment</i>	N/A	N/A	-	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not applicable for the project activity After end of life the equipment like WTG/ cables will still hold some value for recycling and no waste discharge is expected.	-
	<i>Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury)</i>	There is no soil pollution caused by chemicals at the project site.	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	No risk identified related to project activity	-
	<i>Soil erosion</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	No risk identified related to project activity	-
Environment - Water	<i>Reliability/ accessibility of water supply</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	The project being as wind power plant does not use in any process. No risk identified.	-

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<p><i>Water Consumption from ground and other sources</i></p>	<p>There is no water consumption from ground for the project use.</p>	<p>N/A</p>	<p>N/A</p>	<p>-</p>	<p>-</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>The project being as wind power plant does not use in any process. No risk identified. However, the project activity does have an indirect positive impact as it does reduce the water consumption which would have been used in the baseline for electricity generation from thermal power plants The project owner has not scored the same and accepted.</p>	<p>-</p>
<p><i>Generation of wastewater</i></p>	<p>Project generates wastewater caused by the domestic use, but it is disposed</p>	<p>According to the Water Pollution Control Regulation wastewater produced by workers during operation was</p>	<p>-</p>	<p>Harmless</p>	<p>-</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Wastewater Transfer records will be used as a proof of the disposal of wastewater.</p>	<p>When the septic tanks are full, collected wastewaters are vacuumed by authorized entities. Moreover, since the number of</p>	<p>+1</p>	<p>The project activity has installed septic tanks for storage and disposal of domestic sewer generated by the employees.</p>	<p>+1</p>	

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			collected in a septic tank and later when they are filled, they were periodically transferred to wastewater treatment plant.								employees in the plant is few, there is not much wastewater generation at the plant.		The photos of septic tank and disposal also provided and checked. The mechanism in place to cover the risk for domestic sewer generation as project activity being a remote site location. The disposal records of septic tank are being maintained by the project owner.	
<i>Wastewater discharge without/with insufficient treatment</i>	The project does not cause any ww discharge without treatment.	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
<i>Pollution of Surface, Ground and/or Bodies of water</i>	The project does not lead water pollution of surface and groundwater and water bodies since it is a wind power plant.	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-

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Environment – Natural Resources	<i>Conserving mineral resources</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	-	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Protecting/enhancing plant life</i>	There are no nature protection areas within the borders of Tokat Province.	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	-	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Protecting/enhancing species diversity</i>	There may be harmful effects for birds due to turbine operation.	IUCN criteria	N/A	Harmless	-	N/A	N/A	N/A	Site personnel will monitor bird and bats carcasses and any negative impact will be reported.	In the ornithology report prepared for the project, it was determined that the project area is not on the main migration routes of migratory birds. As a result, the location of the site is seen as a suitable project in terms of ecosystem. Moreover, to prevent possible striking there is lighting system in the turbines which red light is on at nights and white light is on in the	+1	The preventive measures are undertaken by the PO by means of installing the lights on WTG. Further Bird hitting and died will be monitored as parameter. The PO also do periodic check on migratory routes.	+1

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											daytime. In this way possible striking of the birds is eliminated.			
	<i>Protecting/enhancing forests</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Protecting/enhancing other depletable natural resources</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Conserving energy</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Replacing fossil fuels with renewable sources of energy</i>	The project activity replaces fossil fuels with wind energy as it's based on the baseline.	No legal limit	N/A	-	-	N/A	N/A	N/A	The electricity generation will be monitored.	The generated electricity by the project activity will be continuously measured and the related CO2 emission reduction will be calculated according to the applied	+1	Project activity replaces the fossil fuel-based generation to renewable clean wind energy. The renewable energy generated is being monitored	+1

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											methodology.			
	<i>Replacing ODS with non-ODS refrigerants</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<p>Note: If the score is: (a) zero or greater, the overall impact is neutral or positive and there is no net harm; and (b) less than zero, the overall impact is negative and there is net harm to Environment. Score is obtained after adding the individual scores in each of the rows in the last column of the above table.</p>														
Net Score:		+6												+6
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to the environment.												
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity is not likely to cause any net harm to Environment.												

Appendix 6. Social Safeguards Assessment

Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards									Project Owner's Conclusion		GCC Verifier's Conclusion	
		Description of Impact (both positive and negative)	Legal requirement /Limit	Do-No-Harm Risk Assessment			Risk Mitigation Action Plans		Do-No-Harm Residual Risk Assessment		Self-Declaration		3 rd Party Audit	
				Not Applicable (No actions required)	Harmless (No actions required)	Harmful (Actions required)	Operational Controls	Program of Risk Management Actions	Re-evaluate Risks	Monitoring	Explanation of Conclusion	The Project Activity will not cause any harm	Verification Process	Will the Project Activity cause any harm?
<p>Social impacts on the identified categories⁸ indicated below.</p>	<p>Indicators for social impacts</p>	<p>Describe the impacts on society and stakeholders, both positive and negative, that may result from constructing and operating of the Project Activity.</p>	<p>Describe the applicable national regulatory requirements / legal limits related to the identified risks of social impacts.</p>	<p>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 (No actions required)</p>	<p>If social impacts are anticipated, but are expected to be in compliance with applicable national regulatory requirements/ legal limits, then it the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Harmless (No actions required)</p>	<p>If social impacts are anticipated that will not be in compliance with the applicable national regulatory requirements/ legal limits, then the Project Activity is likely to cause harm (may be unsafe) and shall be indicated as Harmful (Actions required).</p>	<p>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.</p>	<p>Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., construction of crèche for workers) that will be adopted to reduce the risk of impacts that have been identified as Harmful.</p>	<p>Re-evaluate risks after Risk Mitigation Actions plans have been developed (refer to previous two columns) for impacts that have been identified as Harmful. Indicate whether the risks have been eliminated or reduced and, where appropriate, indicate them as Harmless (No actions required)</p>	<p>Describe the monitoring approach and the parameters to be monitored for each impact that has been identified as Harmful and to be described in the PSF (refer to Table 3).</p>	<p>Describe how the Project Owner has concluded that the Project Activity is likely to achieve the identified Risk Mitigation Action Plan targets for managing risks to levels that are unlikely to cause any harm.</p>	<p>Confirm that the Project Activity risks of negative social impacts are expected to be managed to levels that are unlikely to cause any harm (Mark +1 for Yes or and -1 for No)</p>	<p>Describe how the GCC Verifier has assessed that the Project Activity has adopted Risk Mitigation Action Plans to mitigate the risks of negative social impacts to levels that are unlikely to cause any harm.</p>	<p>Confirm whether the Project Activity is likely to manage risks of negative social impacts to levels that are unlikely to cause any harm (Mark +1 for Yes or and -1 for No)</p>

⁸ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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Social Safeguards														
Social - Jobs	Long-term jobs (> 1 year) created/lost	The project activity has created job opportunities.	Employments have been realized in accordance with the labor law	N/A	-	-	Records of People employed by the project will be maintained.	N/A	N/A	Records of People employed (Social Security Records) by the project will be maintained.	Thanks to project activity, there is positive impact on income generation of local people. Social Insurance Operations Regulation was rearranged on 31st of May 2016 in Turkey. Under this regulation, within the border of Turkey, without social insurance, employees cannot be worked in any shape or form.	+1	Being a commercial power plant, the project activity is expected to create the employment for both Skilled and unskilled persons. The employment generated is being monitored by the project owner and can be checked with records during ER verification. The project owner has mentioned target to provide 9 employments monitoring system is in place	+1
	New short-term jobs (< 1 year) created/lost	The project activity provided short term job opportunities during the construction phase of the project.	Employments have been realized in accordance with the Labor Law.	N/A	-	-	N/A	N/A	N/A	Construction of the project was implemented by qualified construction company contracted by project owner. Project owner has no access to the employment records of the short - term employment. Hence, this parameter will not be scored.	N/A	N/A	The project activity must have generated short term jobs during the construction phase as many types or labor and one type of work is required. However, it is not a	-

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													continuous process and thus not scored or monitored by the project owner. Accepted	
	<i>Sources of income generation increased / reduced</i>	Income generation has been provided with the project activity.	Employments have been realized in accordance with the Labor Law and Social Security Regulations	N/A	-	-	N/A	N/A	N/A	Site personnel will be interviewed on job opportunities. Records of People employed (Social Security Records) by the project will be maintained.	According to the labor law of the Republic of Turkey ⁹ , employers are obliged to insure their employees for the duration of their employment. Employers' insurance records are proof that there are income generation by the employer which is project owner.	N/A	The project activity does create new job opportunities. The employment records have been checked by assessment team and it confirmed that project activity generates new income sources. The impact is being monitored but the PO has not scored the same. Accepted	-
Social - Health & Safety	<i>Disease prevention</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Reducing / increasing accidents</i>	Occupational accidents are probable within the scope of the projects. Job training are	Employees are trained in line the HSE Law. ¹⁰		Harmless	-	N/A	N/A	N/A	Participant lists for HSE trainings will be used as proof of the attended trainings.	According to the occupational health and safety law, the employer is obliged to	+1	The project owner has identified the providing safety/HSE training to employees to avoid the	+1

⁹ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.4857.pdf>

¹⁰ <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

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		given to the employees.										provide this training to its employees. Training records can also be considered as proof of that there are preventive studies of accidents. Moreover, these trainings provide a reducing in project activity related accidents. These trainings also provide consciousness to employees on how to act in case of an accident in the plant.		accidents on site. The sample records for such training also provided and checked. The monitoring system is also in place for trainings conducted.	
<i>Reducing / increasing crime</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
<i>Reducing / increasing food wastage</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
<i>Reducing / increasing indoor air pollution</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-

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	<i>Efficiency of health services</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Sanitation and waste management</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
Social - Education	<i>Job related training imparted or not</i>	The project owner provides job related training for the special positions.	-	N/A	-	-	The employee may be given job-related training in order to increase the capability of them, if required.	N/A	N/A	According to the "REGULATION ON PROCEDURES AND PRINCIPLES OF EMPLOYEE'S OCCUPATIONAL HEALTH AND SAFETY TRAINING" which was come into force on 15th May 2013, all of the legal employees that are working within the border of Republic of Turkey should be provided health and safety trainings by their employers. Employers are obliged to provide this.	According to the occupational health and safety law, the employer is obliged to provide this training to its employees. Training records can also be considered as proof of this. There are income generation by the employer which is project owner.	+1	The project owner envisages to impart job and safety related trainings to employees, The training records the project till date have also been submitted and checked. It is confirmed that it increases the skills of employees The training will be continuous process and records will be maintained by the project owner.	+1
	<i>Educational services improved or not</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by	-

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													assessment team	
	<i>Project-related knowledge dissemination effective or not</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
Social - Welfare	<i>Improving/deteriorating working conditions</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Community and rural welfare</i>	Employment opportunities and thus income generation have been created for local people.	Labor laws	N/A	-	-	N/A	N/A	N/A	Site personnel will be interviewed on job opportunities.	The fact that the employees working in the project area are generally local people is the indicator of this situation. Their employment records may be seen as a proof of this assessment	+1	The project activity is located in isolated rural area and for unskilled work it employs the local persons wherever possible. This was also checked during remote audit interviews with local villagers/stake holders. Employment is being monitored and local/rural employment can be checked during the ER verification process. System is established.	+1

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	<i>Poverty alleviation (more people above poverty level)</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A		Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Improving / deteriorating wealth distribution/generation of income and assets</i>	Income generation have been created for local people.	Labor Law	N/A	-	-	N/A	N/A	N/A	Site personnel will be interviewed on job opportunities.	The fact that the employees working in the project area are generally local people is the indicator of this situation. Their employment records may be seen as a proof of this assessment.	N/A	Employment is already discussed and assessed. The point is not being scored but the mentioned impact is agreeable to the assessment team	-
	<i>Increased or / deteriorating municipal revenues</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Women's empowerment</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
	<i>Reduced / increased traffic congestion</i>	N/A	N/A	N/A	-	-	N/A	N/A	N/A	N/A	N/A	N/A	Not Applicable / No risk or negative impact identified by assessment team	-
<p>Note: If the score is: (a) zero or greater, the overall impact is neutral or positive and there is no net harm; and (b) less than zero, the overall impact is negative and there is net harm to society. Score is obtained after adding the individual scores in each of the rows in the last column of the above table.</p>														

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Net Score:	+4		+4
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 net harm to society.		

Appendix 7. United Nations Sustainable Development Goals (SDG) Assessment

UN-level SDGs	UN-level Target	Declared Country-level SDG	Defining Project-level SDGs					Project Owner(s)'s Conclusion		GCC Project Verifier's Conclusion	
			Project-level SDGs	Project-level Targets/ Actions	Project-level Indicators	Contribution of Project-level Actions to SDG Targets	Monitoring	Explanation of Conclusion	Are Goal/Targets Likely to be Achieved?	Verification Process	Are Goal/Targets Likely to be Achieved?
<p>Describe UN SDG targets and indicators</p> <p>See: https://unstats.un.org/sdgs/indicators/indicators-list/</p>	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	<p>Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope.</p> <p>For guidance see: Integrating the SDGs into Corporate Reporting- A Practical Guide: https://www.unglobalcompact.org/docs/publications/Practical_Guide_SDG_Reporting.pdf</p> <p>Case-study from Coca-Cola and other organizations to develop organization-wide SDGs (page 114): https://pub.iges.or.jp/pub/realising-transformative-potential-sdgs</p>	Define project-level targets/actions, by suitably modifying and customizing UN/Country-level targets to the project scope. Define the target date by which the Project Activity is expected to achieve the project-	Define project-level indicators by suitably modifying and customizing UN/Country-level indicators to the project scope or creating a new indicator(s). Refer to the previous	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	Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG target and Indicator	Describe how the Project Owner has concluded 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)	Describe how the GCC Verifier has verified the claims that the Project Activity is likely to achieve the identified project-level SDG targets	Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or No)

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				<i>level SDG target(s). Refer to the previous column for guidance</i>	<i>column for guidanc e</i>	<i>-level SDG targets and is additio nal to what would have occurr ed in the absenc e of the Project Activity</i>						
Goal 1: End poverty in all its forms everywhere	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 3. Ensure healthy lives and promote well-being for all at all ages	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 5. Achieve gender equality and empower all women and girls	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 6. Ensure availability and sustainable management of water and sanitation for all	SDG 6 Clean Water and Sanitati on: The project contrib	Yes	Since it is renewable energy project, project activity does not consume any water for cooling purposes like fossil fuel energy plants. Therefore, this project provides a significant water use avoidance and thus protects the environment.	Wastewater avoidance is 1,170.3 (x1000 m3/year) for the	6.3.1 Proporti on of domesti c and industri al wastew	Since it is renewable energy project, project	Check annual avoided Waste water.	Project owner operates the plant since 2016	Yes	The project activity is a wind power plant and as per the established baseline, the project activity does reduce the generation from the thermal power plants.	Yes	

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	<p>SDG Target 6.4 "By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity"</p>			<p>baseline annually.</p>	<p>water flows safely treated</p>	<p>activity does not consume any water for cooling purposes like fossil fuel energy plants, therefore it contributes the water consumption avoidance.</p>		<p>and complies with targeted SDGs so far</p>		<p>Thermal power plants based in fossil fuel uses the water in process and do generate wastewater.</p> <p>Thus, the project activity is confirmed to contribute the reduction in the usage of water and generation of wastewater.</p> <p>Estimated reduction in the wastewater generation per MWh of project activity is being calculated and monitored by the project activity based on the baseline data of Turkey.</p> <p>The corresponding project level indicator is correctly identified by the project owner, and this can also be continuously verified during each monitoring period.</p>	
<p>Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>SDG Target 7.2 "By 2030,</p>	<p>Yes</p>	<p>Increase the share of renewables in the total installed power capacity connected to the national grid.</p>	<p>Provide 43.7 MWh clean</p>	<p>Enhance the share of installed</p>	<p>The project increases the renew</p>	<p>Calculate the share of install</p>	<p>The project fully</p>	<p>Yes</p>	<p>Project is a Wind power plant and has been in operation since October 2016.</p>	<p>Yes</p>

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	<p>increase substantially the share of renewable energy in the global energy mix" by the utilization of biomass as a renewable energy source.</p> <p>Indicator 7.2.1 Renewable energy share in the total final energy consumption.</p>			energy annually.	d electricity generation capacity from renewable energy sources .	able energy share in Turkey's energy production mix. It provides 43.7 GWh annual clean energy to the grid.	ed capacity from renewable energy.	com missioned in 2016. Project implementation goes on without any problem.		<p>The project contributes toward renewable energy generation.</p> <p>The project level indicator has been correctly identified by the project owner and it can be continuously monitored.</p>	
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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<p>Goal 10. Reduce inequality within and among countries</p>											
<p>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>SDG Target 11.6 "By 2030, reduce the adverse per capita environmental impacts of cities, including by paying special attention to air quality and municipal and other waste management"</p>	<p>Yes</p>	<p>Decrease the amount of PM2.5 and PM10 emissions in the cities</p>	<p>Corresponding PM2.5 reduction for Karayayır WPP was calculated as 0.01 µg/m3 while the corresponding PM10 reduction was found as 0.02 µg/m3 for baseline, annually.</p>	<p>11.6.2 Annual mean levels of fine particulate matter (e.g., PM2.5 and PM10) in cities (population weighted)</p>	<p>As known, fossil fuel emissions are secondary sources of PM2.5 and PM10 in the cities. Since the project reduces the use of fossil fuels, PM2.5 and PM10 form</p>	<p>Check annual avoided PM</p>	<p>Project owner operates the plant since 2016 and complies with targeted SDGs so far.</p>	<p>Yes</p>	<p>The project activity is a wind power plant and as per the established baseline, the project activity does reduce the generation from the thermal power plants.</p> <p>Thermal power plants based in fossil fuel (mainly coal based) generates the PM2.5 and PM10 emissions in the Air.</p> <p>Thus, the project activity is confirmed to contributing the reduction in the Emission of the particular matters.</p> <p>Estimated reduction in the PM20 and PM2.5 emissions per MWh of project activity generation is being calculated and monitored by the project activity based on the baseline data of Turkey.</p> <p>The corresponding project level indicator is correctly identified by the project owner, and this can also be continuously verified during each monitoring period.</p>	<p>Yes</p>

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	Indicator 11.6.2 Annual mean levels of fine particulate matter (e.g., PM2.5 and PM10) in cities (population weighted)					ation will be reduced accordingly. Hence, the project helps to improve air quality in cities.					
Goal 12. Ensure sustainable consumption and production patterns	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 13. Take urgent action to combat climate change and its impacts	SDG Target 13.2 "Integrate climate change measures into national policies, strategies and	Yes	Eliminates 28,333 tco2 annually	Commission 43.7 MWh renewable energy plant.	Reduce greenhouse gas emissions by 28,333 tonnes annually.	Since the project uses wind energy, there is no GHG emissions related to the project activity. It eliminates	Calculate avoided GHG emissions every year.	Project owner operates the plant since 2016 and complies with targeted SDGs so far.	Yes	This is primary objective /SDG contribution of the project activity. The project by means of clean energy generation from wind, do reduces the GHG emissions and helps in mitigation of climate change. Relevant monitoring parameter has been incorporated in the monitoring plan.	Yes

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	planning					tes 28,333 tco2 annual y.						
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SUMMARY												
						Targeted	Likely to be Achieved	Project verifier's conclusion on likely to be Achieved				
Total Number of SDGs						4	4	4				
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF						Gold	Gold	Gold				

Appendix 8. Meter Photographs



Main meter



Check Meter

DOCUMENT HISTORY

Version	Date	Comment
V 3.1	31/12/2020	<ul style="list-style-type: none"> ▪ The name of GCC Program’s emission units has been changed from “Approved Carbon Reductions” or ACRs to “Approved Carbon Credits” or ACCs.
V 3.0	23/08/2020	<ul style="list-style-type: none"> ▪ Revised version released on approval by the Steering Committee as per the GCC Program Process. ▪ Revised version contains the following changes: <ul style="list-style-type: none"> ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC). ○ Considered and addressed comments raised by the Steering Committee: <ul style="list-style-type: none"> ➤ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➤ electronic consultations EC01-Round 04 (17.08.2020 – 22.08.2020). ▪ Feedback from the Technical Advisory Board (TAB) of ICAO on GCC submissions for approval under CORSIA¹¹;
V 2.0	25/06/2019	<ul style="list-style-type: none"> ▪ Revised version released for approval by the GCC Steering Committee. ▪ This version contains details and information to be provided, consequent to the latest worldwide developments (e.g., CORSIA EUC).
v1.0	01/11/2016	<ul style="list-style-type: none"> ▪ Initial version released for approval by the GCC Steering Committee under GCC Program Version 1

¹¹See ICAO recommendation for conditional approval of GCC at https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Jan_2020_final.pdf

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