المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL

Project Verification Report

V3.1 - 2020

CONTENTS

COVER PAGE Project Verification Report Form (PVR)	
Complete this form in accordance with the instructions.	
BASIC INFORMATION	
Name of approved GCC Project Verifier / Reference No. (also provide weblink of approved GCC Certificate)	Shenzhen CTI International Certification Co., Ltd/GCCV007/00 (https://www.globalcarboncouncil.com/wp-content/uploads/2022/03/GCCV007-00-CTI-GCC-Verifier-Certificate-27032022.pdf)
Type of Accreditation	☐ Individual Track[1] ☒ CDM Accreditation Name of the entity that provided the accreditation: UNFCCC Date of validity: 22/09/2022 to 23/09/2023 Weblink of the active accreditation certificate and approval: DOE: Shenzhen CTI International Certification Co., Ltd (unfccc.int) ☐ ISO 14065 Accreditation
Approved GCC Scopes and GHG Sectoral scopes for Project Verification	Scope 1 - Energy Industries (renewable / non-renewable sources)
Validity of GCC approval of Verifier	27/03/2022 to 26/03/2023
Title, completion date, and Version number of the PSF to which this report applies	Title:Alxa League Jilantai 30MW Solar Power Project Completion:16/08/2023 Version:05.0
Title of the project activity	Alxa League Jilantai 30MW Solar Power Project
Project submission reference no. (as provided by GCC Program during GSC)	S00214
Eligible GCC Project Type[2] as per the Project Standard (Tick applicable project type)	☒ **Type A:** ☐ Type A1 ☒ Type A2 (Sub-Type 1) ☐ **Type B – De-registered CDM Projects:**

÷ **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

Project Types defined in Project Standard and Program Definitions on GCC website

	☐ Type B1 ☐ Type[3] B2
Date of completion of Local stakeholder consultation	01/05/2015
Date of completion and period of Global stakeholder consultation. Have the GSC comments been verified. Provide web-link.	12/05/2022-26/06/2022 https://www.globalcarboncouncil.com/global-stakeholders-consultation/ No comments were received for this project.
Name of Entity requesting verification service (can be Project Owners themselves or any Entity having authorization of Project Owners)	Prestige Investment Management (Shanghai) Co. Ltd.
Contact details of the representative of the Entity, requesting verification service (Focal Point assigned for all communications)	Ms. Wang Xiaolian, General Manager Jilantai Town, Azuoqi, Alashan League, Inner Mongolia Autonomous Region, China +8615049837039 Gwtz688@126.com
Country where project is located	China
GPS coordinates of the Project site(s)	The coordinates of the central control room: 39°40'10"N (39.669511N), 105°42'02"E (105.700685E)
Applied methodologies (approved methodologies of GCC or CDM can be used)	ACM0002: "Grid-connected electricity generation from renewable sources" ,Version 21.0
GHG Sectoral scopes linked to the applied methodologies	GHG-SS#1 -Energy industries (renewable - / non-renewable sources)
Project Verification Criteria: Mandatory requirements to be assessed	☒ ISO 14064-2, ISO 14064-3 ☒ GCC Rules and Requirements ☒ Applicable Approved Methodology ☒ Applicable Legal requirements /rules of host country ☒ National Sustainable Development Criteria (if any) ☒ Eligibility of the Project Type ☒ Start date of the Project activity ☒ Meet applicability conditions in the applied methodology ☒ Credible Baseline

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

	☒ Additionality ☒ Emission Reduction calculations ☒ Monitoring Plan ☒ No GHG Double Counting ☒ Local Stakeholder Consultation Process ☒ Global Stakeholder Consultation Process ☒ United Nations Sustainable Development Goals (Goal No 13- Climate Change) ☐ Others (please mention below)
Project Verification Criteria: Optional requirements to be assessed	☒ Environmental Safeguards Standard and do-no-harm criteria ☒ Social Safeguards Standard do-no-harm criteria ☒ United Nations Sustainable Development Goals (in additional to SDG 13) ☒ CORSIA requirements
Project Verifier's Confirmation: The *GCC Project Verifier* has verified the GCC project activity and therefore confirms the following:	The GCC Project Verifier [*Shenzhen CTI International Certification Co., Ltd*], certifies the following with respect to the GCC Project Activity [*Alxa League Jilantai 30MW Solar Power Project*]. ☒ The Project Owner has correctly described the Project Activity in the Project Submission Form (version 04.0, dated 23/09/2023) including the applicability of the approved methodology [ACM0002 of CDM methodology, version 21.0] and meets the methodology applicability conditions and is expected to achieve the forecasted, real, measurable 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. ☒ The Project Activity is likely to generate GHG emission reductions amounting to the estimated 39,340 tCO_{2e} annually, 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. ☒ 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: ☒ Environmental No-net-harm Label (**E^+**) ☒ Social No-net-harm Label (**S^+**) ☒ The Project Activity is likely to contribute to the achievement of United Nations Sustainable Development Goals (SDGs), complies with the Project Sustainability Standard, and contributes

	to achieving a total of *03* SDGs(SDG 7,8,13), with the following[4] SDG certification label (**SDG⁺**): ☐ Bronze SDG Label ☒ Silver SDG Label ☐ Gold SDG Label ☐ Platinum SDG Label ☐ Diamond SDG Label 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., v1.3 paragraph 23-25, 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 Project Activity complies with all the applicable GCC rules and therefore recommends GCC Program to register the Project activity with above mentioned labels.
Project Verification Report, reference number and date of approval	Reference number: CTINB-2023-SS214 Date of approval: 28/09/2023
Name of the authorised personnel of GCC Project Verifier and his/her signature with date	 Zhou Lu, General Manager 28/09/2023

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

1. PROJECT VERIFICATION REPORT

Section A. Executive summary

Brief Summary of the Project Activity

Alxa League Jilantai 30MW Solar Power Project (hereinafter referred to as the proposed project) aims to install a solar PV power station with total capacity of 30MWp, which locates in Jilantai Town, Alxa Left Banner, Inner Mongolia Autonomous Region, P.R. China. The electricity generated from the project will be sold to North China Power Grid (NCPG). The proposed project delivers the renewable energy and achieve greenhouse gas (GHG) emission reductions through displacement of electricity delivered by NCPG which is a fossil-fuel dominated power grid.
>>

Address and geodetic coordinates of the physical site of the Project Activity	
Latitude – Decimal degrees	Longitude – Decimal degrees
39°40'10"N (39.669511N)	105°42'02"E (105.700685E)

The project was installed with 30 PV power generation arrays with a total capacity of 30.04278 MW.The project is operational since 17/01/2016. The project is expected to supply an annual of 44,573MWh electricty to NCPG during 25 years' lifetime, which will achieve average annual emission reductions of 39,340 tCO_2e, respectively. The total GHG emissions reductions in the chosen fixed 10 years crediting period amount to 393,403 tCO_2e.

Scope of Verfication

The scope of the services provided by Shenzhen CTI International Certification Co., Ltd (hereafter referred to as "CTI") for the project is to perform Project Verification 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 would also be verified. 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 , tools 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 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 audit 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 final PSF/1/, supporting documentation and subsequent follow-up actions have provided CTI with sufficient evidence to determine the fulfilment of stated criteria. CTI is of the opinion

that the project activity “Alxa League Jilantai 30MW Solar Power Project” as described in the final PSF meets all relevant\ requirements of GCC and host country (legal requirements for producing power) criteria and has correctly applied the CDM methodology: ACM0002 and applicable tools. Therefore, the project is being recommended to GCC Steering Committee for request for registration. The project could achieve the requirements of the Environmental No net-harm Label (E+) and the Social No-net-harm Label (S+); The project is likely to contribute to the achievement of United Nations Sustainable Development Goals (SDGs), which is likely to achieve the Silver SDG certification label (SDG+).

Section B. Project Verification team, technical reviewer and approver

B.1. 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&Validator	IR	Lin	Wu	CTI	Y	Y	Y	Y
2.	Team Member	IR	Shao	Ting	CTI	Y	Y	Y	Y
3.	Team Member	IR	Wu	Yanan	CTI	Y	Y	Y	Y
4.	Financial Expert	IR	Chen	Yazi	CTI	Y	N	Y	Y

B.2. 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	IR	Lin	Shunrong	CTI
2.	Approver	IR	Zhou	Lu	CTI

Section C. Means of Project Verification

C.1. Desk/document review

The verification was performed primarily as a document review of the initial PSF/2/ and revised/final PSF/1/. 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.

C.2. On-site inspection

Duration of on-site inspection: 20/08/2022				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	The project verification team conducted interviews with the project owner, plant in-charge, other stakeholders to confirm the information and to resolve issues identified in the document review. An assessment was conducted as a part of project verification activity and involved: 1. an assessment of the implementation and operation of the project activity as per the PSF and GCC requirements 2. To verify that the project design, as documented is sound and reasonable, and meets the identified criteria GCC Standard Requirements and associated guidance 3. To assess conformance with the certification criteria as laid out in the GCC Standards; 4. To evaluate the conformance with the certification scope, including the GHG project and baseline scenarios, additionality; GHG sources, sinks, and reservoirs; and the physical infrastructure, activities, technologies and processes of the GHG project to the requirements of the GCC; 5. To evaluate the calculation of GHG emissions, including the correctness and transparency of formulae and factors used; assumptions related to estimating GHG emission reductions; and uncertainties; and 6. To determine whether the project could reasonably be expected to achieve the estimated GHG reduction/removals. 7. a review of information flows for generating, aggregating and reporting of the ex-ante monitoring parameters. 8. interviews with relevant personnel to confirm that the operational and data collection procedures can be implemented in accordance with the Monitoring Plan 9. a cross-check between information provided in the submitted documents and data from other sources 10. a review of calculations and assumptions made in determining the GHG data and estimated ERs, and 11. an identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring	Jilantai Town, Alxa Left Banner, Inner Mongolia Autonomous Region, P.R. China 39°40'10"N (39.669511N), 105°42'02"E (105.700685E)	20/08/2022	-Wu Lin -Ting Shao -Yanan Wu

	parameters 12. Verification of Stakeholder Consultation by interviewing the stakeholders. 13. additional labels (E+,S+ SDGs and C+) 14. confirmation of legal ownership of the project activity and avoidance on double accounting			

The assessment team performed the on-site verification (Jilantai Town, Alxa Left Banner, Inner Mongolia Autonomous Region, P.R. China.) on 20/08/2022.The interviewed personnel and objective are listed in above table.

C.3. Interviews

No.	Interview			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Wang	Xiaolian	General Manager	20/08/2022	Project Boundary, Eligibility criteria, Host country requirements	-Wu Lin -Ting Shao -Yanan Wu
2.	Liu	Ziyi	Climate Bridge (Shanghai) Ltd.	20/08/2022	Emission reduction calculations, Investment inputs, Benchmark and Financial Analysis, E+, S+ and SDG+ requirements	-Wu Lin -Ting Shao -Yanan Wu
3	Wang	Haiyan	Plant Chief	20/08/2022	Project Implementation, Monitoring plan, Local stakeholder consultation	-Wu Lin -Ting Shao -Yanan Wu
4	Wei	Yunfan	Villager	20/08/2022	E+, S+, SDG+,Environmental and social impact, Overal Opinion over the project	-Wu Lin -Ting Shao -Yanan Wu
5	Peng	lan				
6	Li	Jia	Alashan League Ecological and Environmental Comprehensive Service Center	20/08/2022	E+, S+, SDG+,Environmental and social impact, Overal Opinion over the project	-Wu Lin -Ting Shao -Yanan Wu

C.4. Sampling approach

Not applicable as no sampling has been used during the project verification.

C.5. 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	-	-	-
General description of project activity	A_1, A_2, B_1, B_2	CL#02	-	-
Application and selection of methodologies and standardized baselines	A_1, A_2, B_1, B_2	-	-	-
- Application of methodologies and	A_1, A_2, B_1, B_2	-	-	-

standardized baselines				
- 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	-	CAR#01	-
- Estimation of emission reductions or net anthropogenic removals	A_1, A_2, B_1, B_2	-	-	-
- 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	CL#01	-	-
Local stakeholder consultation	A_1, A_2, B_1	-	-	-
Approval & Authorization- Host Country Clearance	A_1, A_2, B_1, B_2	-	-	FAR#01
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	-	-	-
Social Safeguards (S^+)	A_1, A_2, B_1	-	-	-
Sustainable development Goals (SDG^+)	A_1, A_2, B_1	-	-	-
Authorization on Double Counting from Host Country (only for CORSIA)	A_1, A_2, B_1	-	-	FAR#01
CORSIA Eligibility (C^+)		-	-	FAR#01
Total		2	1	1

Section D. Project Verification findings

D.1. Identification and eligibility of project type

Means of Project Verification	The project activity is correctly identified as A2 category sub-type 1 , the project start operation on 17/01/2016.. The assessment team confirmed the start operation date from the EIA approval /5/, which was approved by Inner Mongolia Alxa Zuoqi Environmental and Ecological Bureau on 23/06/2017. The feasibility study report/6/ for the project was completed in September 2015, the first version of the feasibility study was completed in 2012 and passed the approval on 31/07/2012, as the preliminary preparatory work was not completed until 2015, the first version of the feasibility study is not applicable to the investment analysis, so the update of the feasibility study to the second version, the update of the feasibility study is an internal adjustment to make the investment decision, as the installed capacity did not exceed the scope of the preliminary filing and approval, so it is feasible. The EIA report/5/ was prepared by the Alxa League Environmental Protection Research Institute and was approved on 26/08/2013. The grid-connected scheduling agreement/12/ was signed on 01/03/2016. 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 under GHG or Non GHG program through a declaration/10 provided as separate supporting as being submitted along with request for registration.This has been confirmed through declaration provided by Project Owner and verified through search in relevant publicly available data for other registries like CDM, Verra, CCER, Gold Standard, I-REC and any domestic renewable energy certification scheme by checking all the sourses (in any other registries/websites of programs/standards including local ETS (CC China). 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. The project activity also complies with the relevant GCC eligibility requirements as per Para 14 of the Project Standard, version 03.1/11/. This compliance is discussed under relevant sections for this report. Being a Type A activity, following specific criteria are checked for the project activity as per Para 16 of Project Standard and confirmed that 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 Approval/5/ provided to the project activity as well the Project record certificate for establishment provided to the project activity. The assessment team assessed the relevant regulations to confirm that the project meets the legal requirement test: ● China's Sustainable Development Report /34/ ● FSR approval /6/ ● EIA Approval /5/ ● Notice Regarding the Regulations for Electricity Generation from Renewable Energy /35/ ● Law of the People's Republic of China on Renewable Energies /36/ ● Document for Registered Engineering Consultants in China /37/ ● Approval and Implementation of Power Industry System Reform in China /38/ ● Environmental Protection Law of the People's Republic of China /39/ In addition to the evidence assessment, a confirmation from the local expert was received which confirmed that the project is meeting the local legal regulations

	inside the FSR /6/. 2. The project activity delivers real, measurable and additional emission reduction of 39,340 tCO_{2e} annually (average value for the 10 years crediting period) as compared to the baseline scenario. 3. Project activity correctly applies the Large-scale Consolidated Methodology: ACM0002 "Grid-connected electricity generation from renewable sources" Version 21.0
Findings	No finding was raised.
Conclusion	The verification team reviewed the approval documents for the EIA report and FSR, as well as the grid-connected scheduling agreement and other relevant documents. The project activity was found to meet the eligibility requirements under the GCC Project Standard.

D.2. General description of project activity

Means of Project Verification	**Project Description:** The project activity installed a solar PV power plant with total capacity of 30MWp. The assessment team confirmed that the total capacity was 30 MWp by reviewing the equipment list, equipment nameplates /16/, EIA approval /6/ and on-site visit. The electricity generated from the project will be sold to North China Power Grid (NCPG). The proposed project delivers the renewable energy and achieve greenhouse gas (GHG) emission reductions through displacement of electricity delivered by NCPG which is a fossil-fuel dominated power grid. By checking the feasibility study /6/, the power sales contract /25/ and the power grid diagram /15/, it was confirmed that the power was delivered to the 110kV Jilantai station and ultimately to the Alashan power grid, which is located in the northern part of the North China Power Grid, and is an integral part of the North China Power Grid and the main delivery end of the grid. The project have startedl operation on 17/01/2016. The assessment team confirmed the start operation date from the Project environmental acceptance approval documents /56/, which was approved by Inner Mongolia Alxa Zuoqi Environmental and Ecological Bureau on 23/06/2017. These details regarding nature, capacity and legal license of the PSF/1/ have been checked from FSR/6/ for the project activity. During assessment, the verification team observed that the project installation was complete, and the project installation was carried out in accordance with the FSR/6/. Grid-connected scheduling protocol/12/ could be confirmed that project plant is located in Jilantai Town, Alxa Left Banner, Inner Mongolia Autonomous Region, P.R. China and connected to the North China Power Grid, which is one of the regional grids of Chinese grid network and thus it can be confirmed that the project is connected to the same grid. The coordinates of the physical site of the project activity are as follows: Latitude – Decimal degrees: 39°40'10"N (39.669511N) Longitude – Decimal degrees: 105°42'02"E (105.700685E) The location was checked with the help of satellite images via independent research. Latitude and Longitude of the physical site of the project activity has been included appropriately in the PSF which was found consistent from the feasibility report. The assessment team determined on site that the coordinates were correct through positioning software. The Project activity is a greenfield project which is confirmed through EIA Approvals/5/ for the project activity plant and equipment purchase contract/13/ made with the suppliers for the plant. It is verified that all the project activity

equipment (modules /inverters/ transformers) are newly purchased.

Since, the project activity is grid connected electricity generation, in the absence of activity same electricity would have been produced from fossil fuel dominated NCPG.
.

It was also verified during the onsite audit and meter installation photos/14/ that electricity generated by the project is delivered to the onsite Jilantai 110KV substation through 35KV power line. By checking the power wiring diagram/15, it is confirmed that the power transmission process of the project, the final electricity transmission to the Jilantai 110kV substation, which belongs to NCPG.

The assessment team has also reviewed the photographs of the site installations provided by the project owner and found the photographs to be consistent with the information provided in PSF/1/ and verified during the site visit

Legal Ownership:
The legal ownership of the Project activity facilities is with Alxa Left Banner Guodian Photovoltaic Power Co., Ltd. This has been checked with the EIA approval/5/ and equipment purchase contract/13/ where legal ownership of the project plant and equipment is establishment and confirmed.

The legal owner has identified a single person for legal representation and in-turn have nominated Prestige Investment Management (Shanghai) Co.,Ltd. to be focal point to GCC program through letter of authorization/17/. The names of project owner and legal owners are also found to be consistent with the details provided as project owner in PSF/1/ and letter of authorization/17/ and is found appropriate.

Technical Details:

The proposed project involves the installation of 30 PV power generation arrays with a total capacity of 30.04278 MW, each array unit with a capacity of 1MWp consists of 2 inverters. The total number of inverters was 60, which was determined to be the same as in the PSF through cross-checking of the equipment list /16/ and on-site inspections. The estimated annual average power output is 39,403 MWh, which has been checked by reviewing PSF. The annual electricity production of a PV plant is calculated based on the installed capacity, the annual peak sunshine hours, and the total efficiency of the PV plant system. And PV module efficiency will be lost, the panel in the use of the process of photoelectric conversion efficiency will be reduced. The annual power generation was simulated by the software, and it was verified that there was a 0.89 % decrease in power generation per year due to the ageing of the photovoltaic panels, according to the performance of PV modules provided by the manufacturer, the attenuation of no more than 2% in 2 years, the total attenuation rate of no more than 20% in 25 years, so the annual PV power generation value is conservative.

Sampling Approach:

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

Other Labels:

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.

Voluntary Labels	Applied by the project
UN Sustainable development	Yes

	goals(SDG+) — The project activity has applied and complies with 3 out of total 17 SDG; Silver Environmental No-net harm (E+) — Yes Social No-net harm(S+) — Yes **CORSIA:** 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 Para 16, Standard on Avoidance of Double Counting, version 1.0/18/. 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. A FAR has been raised in this regard and the compliance is discussed in detailed under section D.14 of this report. The description in the PSF/1/ 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 of the Gold Standard Registry/ Verra Registry/ Chinese ETS/ CDM Registry/ I-REC/ any domestic renewable energy certification scheme to determine if the project was part of GHG and non GHG program prior to commencement of this verification. It was confirmed that the involved project owner/legal owners have not submitted the project under GHG and non GHG program.
Findings	No fundings ware raised.
Conclusion	The verification team conducted a thorough review of key documents such as the EIA approval, FSR, purchase contract, and grid-connected scheduling protocol. As a result, the project description in the final PSF was confirmed to be both accurate and complete.

D.3. Application and selection of methodologies and standardized baselines

D.3.1 Application of methodology and standardized baselines

Means of Project Verification	**ACM0002: Grid-connected electricity generation from renewable sources (version 21.0)**	
	Applicability criterion	**Assessment**
	1. Para 4 of the applied methodology: This methodology is applicable to grid-connected renewable energy power generation project activities that: (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).	Applicable. The project is a newly built solar power generation project, it includes activities that install a Greenfield power plant. The project has 30MWp of installed capacity. The project site generates and supplies electricity to the North China Power Grid (NCPG), which has been verified by reviewing the feasibility study

		report /6/, the power purchase contract /25/, equipment purchase contract /13/ and the power grid diagram /15/, assessment team confirmed that the project activity is gird connected, and all the Photovoltaic modules are newly purchased and there was no solar or any other power plant operational at the project activity locations, which is connected to NCPG The project activity is confirmed to be single greenfield solar power plant.
	2. Para 5 of the applied methodology: In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s).	Not applicable. After reviewing the documents, the verification team confirmed that the project is not equipped with the BESS
	3. Para 6 of the applied methodology: The methodology is applicable under the following conditions: (a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; (c) In case of Greenfield project activities applicable under paragraph 5 (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision	Not applicable. After reviewing the project documents, including the FSR/6/and EIA/5/, it was determined that the project is a solar power plant and does not involve any capacity additions, retrofits, rehabilitations, or replacements.

	documents); d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies 2 may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant.	
	4. Para 7 of the applied methodology: In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m^2; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation(7), is greater than 4 W/m^2; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m^2, all of the following conditions shall apply: The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m^2; Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m^2 shall be a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project	Not applicable. Through documents review, the verification team confirmed that the project is a solar power plant, do not involve the construction of hydro power plants.
	5. Para 8 of the applied methodology: In the case of integrated hydro power projects, project proponent shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into	Not applicable. Through documents review, the verification team confirmed that the project is a solar power plant, do not involve the construction of hydro power plants.

	account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity.	
	6. Para 9 of the applied methodology: The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	The project activity does not involve any of the given criteria hence methodology is applicable for the project activity /40/.
	7. Para 10 of the applied methodology: In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	Not applicable. The project is a greenfield project the applicability criterion is not applicable.
	Tool 05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation (version 03.0)	
	1. Para 5 If emissions are calculated for electricity consumption, the tool is only applicable if one out of the following three scenarios applies to the sources of electricity consumption: Scenario A: Electricity consumption from the grid. The electricity is purchased from the grid only, and either no captive power plant(s) is/are installed at the site of electricity consumption or, if any captive power plant exists on site, it is either not operating or it is not physically able to provide electricity to the electricity consumer. Scenario B: Electricity consumption from (an) off-grid fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants are installed at the site of the electricity consumer and supply the consumer with electricity. The captive power plant(s) is/are not connected to the electricity grid; or Scenario C: Electricity consumption from the grid and (a) fossil fuel fired captive power plant(s). One or more fossil fuel fired captive power plants operate at the site of the electricity consumer. The captive power plant(s) can provide electricity to the electricity consumer. The captive power plant(s) is/are also connected to the electricity grid. Hence, the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.	Applicable The electricity consumption by the Baseline, project and/or leakage emissions is provided by the North China Power Grid (NCPG), which is Scenario A.
	2. Para 6 This tool can be referred to in methodologies to provide procedures to monitor amount of electricity generated in the project scenario, only if one out of the following three project scenarios applies to the recipient of the electricity generated:	Applicable The electricity generated in the project scenario is supplied to the North China Power Grid

	Scenario I: Electricity is supplied to the grid. Scenario II: Electricity is supplied to consumers/electricity consuming facilities; or Scenario III: Electricity is supplied to the grid and consumers/electricity consuming facilities.	(NCPG), which is Scenario I.
	3. Para 7 This tool is not applicable in cases where captive renewable power generation technologies are installed to provide electricity in the project activity, in the baseline scenario or to sources of leakage. The tool only accounts for CO_2 emissions.	Applicable The verification team confirmed there is no captive renewable power generation technologies are installed to provide electricity in the project activity, in the baseline scenario or to sources of leakage.
	Tool 07: Tool to calculate the emission factor for an electricity system (Version 07.0)	
	Applicability criterion	**Assessment**
	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).	Applicable This project replaces grid power supply and uses this tool to calculate the values of OM, BM and CM of this project.
	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-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.	Applicable The emission factor for this project electricity system was calculated for grid power plants.
	3. Para 5 In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project 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 and is applicable to all geographical locations.
	5. Para 6 Under this tool, the value applied to the CO_2 emission factor of biofuels is zero.	This condition is not relevant, this project is a solar power project. The applicability criterion is met.
	Tool 01: Tool for the demonstration and assessment of additionality (Version 7.0.0)	
	Applicability criterion	**Assessment**
	1. Para 9 of the applied tool: The use of the "Tool for the demonstration and assessment of additionality" is not mandatory for project participants when proposing new methodologies. Project participants may propose alternative methods to demonstrate additionality for consideration by the Executive Board. They may also submit revisions to approved methodologies using the additionality tool.	The methodology selected for the proposed project requires the use of this tool.
	2. Para 10 of the applied tool: Once the additionally tool is included in an approved methodology, its application by project participants using this methodology is mandatory.	The methodology applied in this proposed project requires the use of this tool.
	Tool 27: Investment analysis (version 12.0）	**Assessment**
	1. Para 2 of the applied tool: This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", the guidelines " Non-binding best practice examples to demonstrate additionality for SSC project activities", or baseline and monitoring methodologies that use the investment analysis for the demonstration of additionality and/or the identification of the baseline scenario.	The methodology ACM0002 (Version 21.0) applied in this project requires the use of this tool to demonstrate the investment analysis of this project. Thus, the application of this tool was found to be acceptable, and the applicability criterion is met.
	2. Para 3 of the applied tool: In case the applied approved baseline and monitoring methodology contains requirements for the investment analysis that are different from those described in this methodological tool, the requirements contained in the methodology shall prevail.	The methodology ACM0002 (Version 21.0) applied in this project requires the use of this tool to demonstrate the investment analysis of this project.
	Tool 24: Common practice (version 03.1)	
	1. Para 3 of the applied tool: This methodological tool is applicable to project activities that apply the methodological tool "Tool for the demonstration and assessment of additionality", the methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality", or baseline and monitoring methodologies that use the common practice test for the demonstration of additionality.	The methodology ACM0002 (Version 21.0) applied in this project requires the use of this tool to demonstrate the investment analysis of this project. Thus, the application of this tool was found

		to be acceptable, and the applicability criterion is met.
	2. Para 4 of the applied tool: In case the applied approved baseline and monitoring methodology defines approaches for the conduction of the common practice test that are different from those described in this methodological tool, the requirements contained in the methodology shall prevail.	The methodology ACM0002 (Version 21.0) Applied in this project requires the use of this tool to demonstrate the common practice of this project.
Findings	No fundinds were raised.	
Conclusion	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 (and tools) for the project activity is applicable.	

D.3.2 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 was 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/tool and the relevant information contained in the PSF against these criteria.

D.3.3 Project boundary, sources and GHGs

Means of Project Verification	As per the applied methodology ACM0002 Version 21.0, the project boundary is the spatial extent of the project boundary includes the project power plant/unit and all facilities connected physically to the electricity system that the project power plant is connected to. The components of the project boundary mentioned in the PSF were found to be in compliance with para 22 of the applied methodology/30/. The verification team conducted desk review of the implemented project to confirm the appropriateness of the project boundary identified. The verification team confirmed that all GHG sources required by the methodology have been included within the project boundary. 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. The project boundary is clearly depicted with the help of a flow diagram in Figure 3 in section B.3 of the PSF and duly verified by the verification team.
Findings	No findings were raised
Conclusion	•The verification team was able to assess that complete information regarding the project boundary has been provided in PSF/1/ and could be assured from the Figure 3. Project Boundary... • The verification team confirms that all identified boundary, selected emissions sources and 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.

D.3.4 Baseline scenario

Means of Project Verification	The paragraph 24 of the applied methodology (ACM0002 Version 21.0)/29/ prescribes a standardized baseline scenario for all greenfield projects, "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." It is confirmed that combine margin of the grid is still dominated by the fossil fuel-based electricity generation, as per the latest version of China Electric Power Yearbook, North China Power Grid is still dominated by fossil fuels fired power plant. Despite the gradual increase in renewable energy sources in power sector, North China Power Grid is still a CO_2 intensive power grid and in absence of the project, equivalent electricity supplied by the project would be generated by power plants connecting to grid and by the addition of new generation sources resulting into the GHG emissions. The assessment team confirmed on its knowledge of the sector that relevant national and/or sectoral policies, regulations and circumstances have been taken into account in the identification of the baseline scenario for the project, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. China enacted the Renewable Energy Law of the People's of China in 2005. Under the Renewable Energy Law of the People's of China, renewable energy power projects including solar PV projects are supported by the government, giving comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies, which belongs to E- policies. 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 North China Power Grid. The baseline scenario applied in the PSF was compared with the requirements of the baseline described in the applied methodology and found consistent.
Findings	No finding was raised related to identification of baseline scenario
Conclusion	The verification team confirms the following; • All assumptions and data used by the Project Owner are listed in the PSF, including their references and sources; • All documentation used by Project Owner as the basis for assumptions and source of data for establishing the baseline scenario is correctly quoted and interpreted in the PSF; 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.

D.3.5 Demonstration of additionality

Means of Project Verification	For demonstrating additionality under GCC the project activity is required to undergo the following tests . **a) Legal Requirement Test** For Legal requirement - Type A projects need to demonstrate that their implementation is not required or mandatory by a law that is enforced. The Legal requirement test has been confirmed in section B.5 of the PSF and verified by the assessment. Based on the available literature on Notice Regarding the Regulations for Electricity Generation from Renewable Energy /35/ &Law of the People's Republic of China on Renewable Energies /36/ in China, 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. The assessment team assessed following approvals for the project activity to confirm that the project meets the legal requirement test: • EIA Approval as issued to the project activity plants/5/ • Approved feasibility report/6/ • Renewable energy law of the people's Republic of China/20/ • Notice Regarding the Regulations for Electricity Generation from Renewable Energy /35/ • Approval and Implementation of Power Industry System Reform in People's Republic of China /38/ • Environmental Protection Law of the People's Republic of China /39/ These approvals for the project plants or laws do not mention any legal binding for the implementation of the project over the period of time of investment for the project. Also, local expert in the team, who is also qualified to work as team leader, 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 solar power projects are not required to be implemented to meet any legal requirement in the host country /Inner Mongolia Autonomous Region or NCPG grid. Thus, it is confirmed from above assessment that there are no mandatory legal requirements for project owner to establish the project activity. The Assessment team has also interviewed the project owner representative and it is declared/confirmed by them that project investors do not have any legal mandate to implement the project activity. Thus, the project is deemed to be passing the legal requirement test. **b) Additionality Test:** As per the applied methodology ACM0002 Version 21.0, additionality of the following project activity is demonstrated and assessed by the latest version of Tool 1: Tool for the demonstration and assessment of additionality". The latest available version of the Tool 1 is Version 07.0/21/. **Step 0: Demonstration whether the proposed project activity is the first-of-its-kind.**

	This step is optional and not used for this project. **Step 1: Identification of alternatives to the project activity consistent with current laws and regulations** **Sub-step 1a: Define alternatives to the project activity** The Project Owner has identified following alternatives to the project activity. **Alternative 1: The proposed project activity not undertaken as a GCC project activity:** Energy produced by the project plant would have been sold to the NCPG grid as per the tariff rate considered. This will lead to financial infeasibility which has been discussed in step 2: investment analysis. **Alternative 2: Continuation of the current situation (no project activity or other alternatives undertaken)** This is the baseline scenario of the project activity. The grid will continue to supply electricity from power plants dominated with fossil fuel and result in GHG emissions. As per the verification team identified alternatives chosen by the PO are the only real and credible alternatives to the project activity. **Sub-step 1b: Consistency with mandatory laws and regulations** This baseline scenario is correctly identified by the project owner in the PSF /1/, and the establishment of this baseline scenario conforms to local laws and regulations: 1.Renewable Energy Law of the People's Republic of China /20/, adopted since 1st January 2006, is formulated to promote the development and utilization of renewable energy, increase energy supply, improve energy structure, ensure energy security, protect the environment, and achieve sustainable economic and social development. The law encourages (not enforce) the implementation of renewable energy projects, and grants tax and tariff benefits to renewable energy projects (these have all been considered in IRR calculation, e.g. tariff subsidy, 0 income tax rate for first 3 years and half income tax rate for the next 3 years). 2.Notice of the General Office of the State Council concerning the Strict Prohibition of the Construction of Coal-fired Power Units with a Capacity of 135MW or below/40/, adopted since 15 April 2002, prohibited the construction of coal-fired power plant with capacity no higher than 135MW. This policy is to promote the power industry to improve efficiency, upgrade, and protect the environment. The policy does not prohibit the construction of large-scal coal-fired power plant. 3.Notice of the State Council on Several Opinions on Accelerating the Shutdown of Small Coal-fired Power Units, adopted since 20 January 2007 /42/, is to shutdown the small coalfired power units gradually and replace it with large-scale coal-fired power plant, so as to reduce energy consumption and total emissions of major pollutants per unit of GDP. The small coal-fired power units refer to the following: Conventional thermal power units with a single unit capacity of less than 50MW; conventional thermal power units with a single unit of less than 100MW after operating for 20 years; All kinds of coal-fired units whose standard coal consumption for power supply is 10% higher than the average level of the province (region, city) or 15% of the national average level in 2005; various units that do not meet environmental protection emission standards. This has been discussed in the legal requirement test above. The verification team has assessed mandatory laws and regulations and confirms that both the alternatives are is are in compliance with mandatory laws and regulations in China.

	Step 2: Investment analysis The project owner has chosen to demonstrate the additionally by means of Investment analysis in accordance with the Tool 01/22/. Since, the Investment analysis 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/22/.. **Investment analysis:** The project owner has demonstrated that investment in the project is not financially attractive to them by means of investment analysis. The purpose of this step is to determine whether the proposed project activity is economically or financially less attractive than the alternative without an additional funding that may be derived from the project activities. The investment analysis was conducted in the following steps: ***Sub-step 2a. Determine appropriate analysis method*** The three analysis methods suggested by *Tools for the demonstration and assessment of additionality* (version 7.0) are simple cost analysis (Option I), investment comparison analysis (Option II) and benchmark analysis (Option III). Since the proposed project will earn revenues from not only the carbon revenue but also the electricity output, the simple cost analysis method is not appropriate. Investment comparative analysis method is only applicable to the case, alternative baseline scenario is similar to the proposed projects, so that comparative analysis can be conducted. The baseline scenario of the proposed project is to supply equivalent annual power output from NCPG rather than a new investment project. Therefore, Option II is not an appropriate method either. The proposed project will use benchmark analysis method based on total investment IRR. This is in accordance with the Para 32 of Tool 01 and thus accepted by the assessment team. ***Sub-step 2b. Apply benchmark analysis (Option III)*** **Selection of Benchmark: Post-Tax Project IRR - 8%** a）The project activity plant is renewable energy based commercial investment. The project investors have referred the host country government guidance for determination of the benchmark. It was also checked and confirmed by the local expert in the team that this reference is widely being referred and standard practice in P.R. China for renewable energy projects benchmark. The benchmark selected is noinal terms. According to the "Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects”/23/ issued by State Power Corporation of China, the financial benchmark as project IRR of the solar power projects in China is regulated as 8% (post-tax) of the total investment and 10% (post-tax) in case equity IRR is chosen. The project investors have selected Project IRR as financial indicator for demonstration of additionality in both the cases and hence, 8% benchmark have been chosen. The benchmark is set by the central government of China that regulates the renewable power industry nationally. Based on assessment team's sectoral and

financial expertise, it is confirmed that this benchmark is widely applied in China and is considered conservative for renewable energy investments.

The benchmark is specifically applicable to the electric power industry in China, and therefore is suitable for the proposed project. The benchmark was issued in September 2002/29/ and is valid till up to date and there is no more recent guidance to replace it. Hence, the 8% benchmark chosen for the project activity is set by the national authority of P.R. China that regulates the electric power industry nationwide. Based on assessment team's sectoral and financial expertise, it is confirmed that this benchmark is widely applied in China and is considered conservative for renewable energy investments. The same has been cross checked with the registered CDM solar energy project in the same province of the project activity and it is confirmed that they are also using the same benchmark whose investment decision was made in 2012 and other registered CDM projects with investment decision made in 2017 and 2018.

Also, the benchmark is determined by the government taking into consideration of all the sectoral aspects and condition in the host country and thus it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark. It is also noted that these are the latest available guidelines on benchmarks in China and are widely adopted by project developers in assessing the financial feasibility of their investments in the power sector. The assessment team has accessed at least 11 registered CDM solar energy projects in the same province of the project activity and it is confirmed that they are also using the same benchmark.
Authorized group confirmed the benchmark values are widely used in electric power industry in our country construction project economic evaluation, also widely used in renewable energy projects (including CCER solar grid power generation) and the development of CDM, therefore, the project submission form using all investment internal rate of return (after tax) 8% as a basic value investment analysis is reasonable.

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

(1) Basic parameters for calculation of financial indicators

As mentioned above, the designed installed capacity in the project feasibility study report is 30 MWp, and the actual installed capacity is 30 MWp. Considering no changes in installed capacity, there is no material impact on project investment, operating costs and generation. Therefore, in the opinion of the audit team, when the financial analysis of the project is carried out to demonstrate the additionality of the project, the financial data should be based on the FSR/6/.

Date	Documentation
04/2013	EIA Report /5/ has been finished by Alashan League Institute of Environmental Protection Science
26/08/2013	EIA has been approval by Environmental Protection Bureau of Alxa League of Inner Mongolia Autonomous Region /5/
01/09/2015	Project feasibility report (Second version) has been finished by Inner Mongolia Green Energy

	New Energy Co., Ltd. /6/. The investment decision taken by the project participant on 01/09/2015. (The first version of the feasibility study was completed in 2012 and passed the approval, as the preliminary preparatory work was not completed until 2015, the first version of the feasibility study is not applicable to the investment analysis, so the update of the feasibility study to the second version, the update of the feasibility study is an internal adjustment to make the investment decision, as the installed capacity did not exceed the scope of the preliminary filing and approval, so it is feasible.)
31/07/2012	Approval of Project feasibility report
10/2015 The start date	EPC Contract /7/
11/2015	Equipment purchase contract for turbines and generators /13/
17/01/2016	Operation Date (The start date of crediting period) has been verified from Project environmental acceptance approval documents /56/

By comparing feasibility study and project submission form and IRR calculation table, the approval team confirms that all financial data used in investment analysis in project submission form are from Feasibility study report. By communicating with the PO, the approval team confirms that the financial data in the feasibility study will not change substantially during the investment decision, and the feasibility study is reasonable as the basis for the investment decision of the project. The project IRR of the project activity in the FSR/06/ and the PSF/01/ was calculated as per the "Economical assessment and parameters for construction project, 3rd edition" inline to the Chinese guideline document and it is on real terms. Which states investment analysis of a project is calculated in real terms, which does not consider the effects of escalation in any parameter of inflation and it is in real terms. And as per "Interim Rules on Economic Assessment Electrical Engineering Retrofit Projects", the benchmark of 8% for project IRR (after tax) is also in real terms. So, the benchmark chosen is as per nationally determined guidelines and project IRR is also based on FSR, which is prepared based on national guidelines and both are in real terms.

Since, the benchmark is in real terms and doesn't consider escalation/inflation, the value of 2002 can be considered relevant at the time of investment decision and therefore, para.16 of the CDM TOOL27: Investment analysis is not applicable for the project.

Thus, in line with Para 15 of tool 27 the applied benchmark shall be appropriate to the type of IRR calculated. Required/expected returns on equity are appropriate benchmarks for an equity IRR. Benchmarks supplied by relevant national authorities are also appropriate. The above benchmark was determined by the State Power Grid Company, which is the national authority of China's electricity power industry. Therefore, it fulfills the requirement of "Benchmarks supplied by relevant national authorities are also appropriate", as stated in para.15 of the CDM tool 27: Investment analysis. Hence, the project owner has selected an appropriate benchmark and financial indicator as comparable to each other as benchmark referred is also post-tax project IRR..

(2) Financial Indicator: Post-tax Project IRR

Based on the project feasibility study report, the approval team reviewed the IRR calculation table of the project, and the IRR/24/ of the project was 6.40%, lower than the industry benchmark value, without considering the carbon emission reduction benefits. Considering that when the ACC price is 15 USD /tCO_2e, the IRR value is 7.02%, indicating that GCC income can improve the income of the project.

verification of Input Parameters:

Parameter	Data	Means of Verification
Installed capacity	30 MWp	☒ sourced from FSR Details of installed capacity was verified from Equipment list /16/, Equipment nameplates /16/, EIA approval /6/ , Photovoltaic Module Purchase Contract/13/ and quality supervision and inspection report /44/, it could be confirmed the installed capacity is 30MWp. During on-site visit, the assessment verified that the equipment was consistent with the sources provided .
Annual electricity supply (lifetime average)	44,573 MWh	☒ sourced from FSR Net generation at investment decision stage based on the FSR/5/ which is used for the project approval. The FSR of the project activity provides a detailed study and analysis of the project activity site location for solar radiation and weather / site conditions and estimates the generation of the project activity considering selected equipment and technology. Annual estimated operation hours are based on collected data from the nearby meteorological station for historical period (1984-2015) and one year actual data collection at pre-project stage by the third-party agency. The same has been checked and verified from the FSR. Based on data modelling, the FSR has expected that 30 MWp solar PV (polysilicon module) shall generate about 44,573 MWh per year on average. The annual equivalent utilization hours considered in the analysis are

				1486 hours. It is confirmed in the FSR that estimation and calculation procedures are in accordance with various national standards as applicable law in China. After software calculation, the total power generation of this project for 25 years is 114,332,200 MWh, and the average annual power generation is 4,457,330 MWh. The annual electricity supply was cross-checked by reviewing the EIA /5/, which has been approved by Environment Protection Bureau of Alashan. All of solar resource data, calculation procedures are in accordance with national standard “Code for Design of Photovoltaic Power Stations” (GB50797-2012) /53/ as applicable law in China and it is confirmed in the feasibility report. It is confirmed in the FSR/6/ that estimation and calculation procedures are in accordance withnational standard “Code for Design of Photovoltaic Power Stations” (GB50797-2012) /53/ as applicable law in China. It was expected from back-calculation of next generation that the PLF of the project will remain as 16.96% (=1486/8760 × 100%). According to “ Guideline for the reporting and verification of plant load factors, EB48 annex11, the plant load factor defined has been verified based on the following criteria: The plant load factor was determined by a third-party design institute (Inner Mongolia Electric Power Survey and Design Institute) which was contracted by the project owner and is professional third-party expert; (b) The plant load factor has been provided to the government while applying the project activity for implementation approval. Thus, it is confirmed that the net annual generation and (indirectly - plant load factor) is valid and applicable at the time of investment analysis. Since, the project activity has already commissioned and is under operation from 17/01/2016. The electricity generation records /57/ along with meters readings from 2016 till 2021 have been provided by the PO, which shows the average generation is 45,170 MWh, 1.34% higher than the average annual estimated value of 44,573 MWh in IRR calculation. It is confirmed that average generation from last 6 years is in line with the FSR estimation and covered in the sensitivity analysis. The verification team does not envisage major change in PLF from the estimation. This variation observed in normal as solar power generation slightly varies as per the	

				Light duration and intensity observed during the particular year. It was confirmed that the project PLF is in the range (16.76% to 18.62%) of other solar projects which have registered for CDM programs (Num: 7960,8098,9817,9955,8721) /54/ located in Inner Mongolia Autonomous Region.
		Project lifetime	25 years (one year for construction)	☒ sourced from FSR The project lifetime was cross-checked by reviewing the EIA /5/, which has been approved by Environment Protection Bureau of Alashan. Before the commercial operation of the project (360h end of test run) by the Inner Mongolia Power Construction Engineering Quality Supervision Center Group for quality supervision and inspection, quality supervision and inspection report /44/ evaluating the project in accordance with the installation and commissioning of the technical indicators are to meet the design requirements, engineering and construction of the basis for the complete documentation in line with national and local policies and regulations. According to the announcement of the General Specification for Energy Efficiency and Renewable Energy Use in Buildings /43/, it is stipulated that the design service life of photovoltaic modules in solar photovoltaic (PV) power generation systems should be higher than 25 years, and that the attenuation rate of polycrystalline silicon, monocrystalline silicon and thin-film modules in the system should be less than 2.5 per cent, 3 per cent and 5 per cent, respectively, within 10 years from the date of system operation, and that after that, the attenuation rate should be less than 0.7 per cent annually. The design of high-quality steel parts is referred to in FSR The design life is 25 years. It could meet CDM Tool 10: Tool to determine the remaining lifetime of equipment. One year construction period applied for the project is in accordance with prevailing practice for wind power project in China, which is verified with most of the registered CDM solar power projects in China.
		Static investment	332,700,000 CNY	☒ sourced from FSR The total static investment applied in the analysis is 332,700,000 CNY is sourced from the approved FSR/6/. The verification team cross-checked the EPC contract and equipment purchase contract, the total investment has reached 328,695,129 CNY, 1.2% lower than the estimated value. Using the static investment of 328,695,129 CNY, the IRR without carbon credits is 6.57%. Furthmore, if the parameter of total static investment decreases more than

				11.23%, the IRR of the proposed project begins to exceed the benchmark of 8%. This cannot be realistic to occur.
		Annual O&M cost	6,381,100 CNY	☒ sourced from FSR The O&M cost is consistent of Annual maintenance cost, Annual staff salary and welfare, Annual insurance, Annual material fee, and Annual other cost. Each component has been verified by the assessment team. A detailed calculation is broken down in the IRR spreadsheet. The annual operating cost in the IRR spreadsheet is verified by assessment team and confirmed to be traceable from the FSR with each value. The breakdown of the annual operating cost is as followed: 1. Fixed assets maintenance is 1% total fixed cost = 1% * 303,930,800 CNY = 3,039,308 CNY/year. 2.Salary and Welfare expense: 780,000 CNY/year considering 8 persons with 65,000CNY/year and 50% welfare benefits as per the regulation. 3. Material Cost: 25 CNY/KWh 4. Other fees: 30 CNY /KWh 5. Insurance: 0.30% of regulatory applicable fixed assets Total annual operating cost: 6,381,100 CNY / Year All the breakup and values are checked from the approved FSR and have matched. The O&M cost of the project includes the repair costs, labour costs and other welfare, insurance costs, material cost. The miscellaneous and other expenses may vary by site location, conditions for transportation, applied technology and number of the solar cell modules. In order to verify O&M cost of the project, the actual operational data /53/ from 2017 to 2021 provided by the project owner have been reviewed, the average O&M cost of the project from 2017- 2021 is 6,374,354.831 CNY. The average O&M cost is 0.11% lower than the estimated in IRR, thus annual O&M cost is appropriate. In order to verify O&M cost of the project, the O&M cost per investment of the project was compared with data of registered CDM /55/ solar power projects in Inner Mongolia Autonomous Region O&M cost per unit installed capacity ranges from 0.14 to 0.29 million CNY/MW) for other registered solar

				power projects in Inner Mongolia Autonomous Region. O&M cost per unit installed capacity for this project is 0.21 million CNY/MW. The cost assumed for the project are found in range. The variation in O&M cost are further subjected to the sensitivity analysis and any possibility of variation crossing the benchmark has been checked. Therefore, it is concluded that the value applied for annual operating cost in the investment analysis and its underlying assumptions are considered conservative at the time of investment decision.
		Tariff	900 CNY/MWh (year 2-21) 293.7 CNY/MWh(year 22-26)	☒ sourced from FSR It is considered based on the FSR which is used for the project approval. The tariff considered in the FSR is based on the official approved tariff for solar power plants in Inner Mongolia City during investment decision making. The verification team confirmed the project's feed-in tariff of 900 CNY/MWh by cross-checking the approval of the feed-in tariff of Alxa League Jilantai 30MW Solar Power Project/32/. Power purchase contract of this project also approved 0.9 CNY/MWh tariff by Inner Mongolia Electric Power Co., Ltd/25/. According to the document "Notice of National Development and Reform Commission on Playing the Role of Price Leverage to Promote the Healthy Development of Photovoltaic Industry" (Development and Reform Price [2013] No. 1638)/33/ issued by the NDRC, the average electricity price during the operation period is RMB 0.9/kWh (including VAT). After 20 years of project operation, the tariff is implemented in accordance with local desulfurization benchmark price, local desulfurization benchmark price is 0.2937 CNY/kWh in 2015. The actual long-term tariff of the project is the same with the estimated tariff in the FSR, according to the Power Purchase Agreement signed with the grid company /25/. The tariff of solar power project is determined by Central Government and the tariff decreases gradually during the past few years. Furthermore, according to the electricity sales invoice /55/ to the grid company from 2016-2022, the tariff is also 0.9 CNY/kWh, the same with the estimated tariff. In summary, the project feed-in tariff of RMB 0.9/kWh is a reasonable value.
		Depreciation rate	4.75%	☒ sourced from FSR It has been verified that a depreciation period of 20 years (the depreciation rate per year is

				4.75%) derived from FSR is in line with the Implementation Rules of Enterprise Income Tax Law of China /45/. It is confirmed to be in accordance with the standard industrial practice in China. In line with the requirement of para of Investment Analysis tool 27, it was confirmed that depreciation, and other non-cash items related to the project activity, which have been deducted in estimation gross profits on which tax is calculated, was added back to net profits for purpose of calculation of the financial indicator Post tax.
		Residual value	5%	☒ sourced from FSR According to the Notification on determination of residual rate for enterprise fixed asset /46/, the residual value can be determined by an enterprise and the range of residual value from 0% to 5% is considered to be reasonable. Therefore, the assessment team confirmed that the residual value of 5% for the proposed project is in accordance with the Chinese regulation.
		Depreciation period	20 years	☒ sourced from FSR It has been verified that a depreciation period of 20 years derived from FSR is in line with the Implementation Rules of Enterprise Income Tax Law of China /45/. It is confirmed to be in accordance with the standard industrial practice in China.
		Tax rate	17% (VAT rate) 0% (year 1-3) 12.5% (year 4-6) 25% (year 7-25)(Income tax) 5% (Educational surtax) 5% (City maintenance and construction surtax)	VAT and additional taxes are considered based on the approved FSR which is used for the project approval. The rates and application of the VAT and add-on taxes are checked with the local expert in the team pertaining to regulation in the host country province and it is confirmed to be correctly applied and considered in accordance with both investment decision and actual scenario. The rates and application are also checked with applicable regulation for VAT and refund /47/. Notice on Several Issues Concerning the Implementation of the Transformation and Reform of Value-Added Tax in the Country was revised on 10 November 2008 and is effective till now, in which the VAT value is still stipulated as 17%. The income tax rates are considered in the FSR and cross-checked with applicable regulation /50//51/ and found to be correctly considered and applied. The city construction surtax of 5% (of the VAT) has been verified to be in line with the FSR. In accordance with Interim Regulations of the People's Republic of China on Urban Maintenance and Construction Tax /48/, the rate of city construction surtax shall be

		determined by the taxpayer's location: 7% for urban areas, 5% for county and town, and 1% for others. The project owner is located in the Jilantai Town, Alxa Left Banner, Inner Mongolia Autonomous Region, P.R. China, which has been verified during the follow-up interview. The assssment team therefore confirmed that the city construction surtax of 5% is applicable for the proposed project. The education tax of 5% (3% required by the national regulation plus 2% required by the local regulation) of the paid VAT derived from the FSR has been substantiated to be in line with the Provisional Regulations of the People's Republic of China on Education Tax /49/. Therefore, the assssment team confirmed that the education tax of 5% (of the VAT) is in accordance with the Chinese regulations at the time of the investment decision.

The verification team has concluded that the sensitivity analysis used is appropriate and reasonable. The input values of the parameters involved in the investment analysis were crosschecked against the evidence provided by the project owner, and all the values were found to be applicable and relevant at the time of the investment decision or project activity scenario. The calculation of the project's cash flow and internal rate of return (IRR) is appropriate and in accordance with Tool 27 guidelines."

The input values of the parameters involved in the investment analysis have been crosschecked 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.
The calculation of the Project Cash-flow and IRR is appropriate and in accordance with the Tool 27 guidelines.

Sub-step 2d: Sensitivity Analysis
In the PSF, four parameters that may have a great impact on the financial status of the project are identified: static total investment, annual on-grid electricity, annual operating cost and on-grid electricity price, and their sensitivity analysis is carried out. The data and assumptions used in the sensitivity analysis in the PSF were considered reasonable by the audit team.

Total static investment
If there is a decrease in total static investment by 11.23%, the IRR is still lower than benchmark of 8%. However, the project construction has finished till now, the sum of equipment and EPC contracts value amount is close to the estimated total static investment.The verification team cross-checked the EPC contract and equipment purchase contract, the total investment has reached 328,695,129 CNY, 1.2% lower than the estimated value. Using the static investment of 328,695,129 CNY, the IRR without carbon credits is 6.57%. Furthmore, if the parameter of total static investment decreases more than 11.23%, the IRR of the proposed project begins to exceed the benchmark of 8%. .

Annual O&M cost
The annual O&M cost mainly includes maintenance cost, salary and the welfare, insurance cost, material cost and other miscellaneous costs. But according to the Chinese statistic yearbook, there is an increasing tendency for the employee salary and the material price in the recent years. By checking the actual operational data

/53/ from 2017 to 2021 provided by the project owner have been reviewed, the average O&M cost of the project from 2017- 2021 is 6,374,354.831 CNY, 0.11% lower than the estimated value. Thus, it is impossible for the operating costs decreasing by 62.87%.

Annual power supply

If the Annual power supply increases more than 11.72%, the project IRR could reach 8.00%. However, a large variation of annual power supply is almost impossible. With degradating of the solar panel, the electricity will decrease. Furthermore, according to the electricity generation records /57/ since 2016-2021, the average annual electricity supply to the power grid by the project is 45,170 MWh, 1.34% higher than the average annual estimated value of 44,573 MWh in IRR calculation. Thus, the possibility of significant increase by 11.72% of annual electricity supply for the whole project lifetime is low.

Tariff

When the tariff increases more than 11.72%, the project IRR could reach 8.00%. Domestic tariffs are set by the central and local governments and do not change with the market. On the basis of factors such as the scale of PV power generation development and changes in power generation costs, the state will gradually reduce the benchmark on-grid tariff for PV power plants and the subsidy standard for distributed PV power generation to promote technological progress, reduce costs and improve the competitiveness of the PV power generation market. According to the power purchase and sale contract of this project (2016-2019), the signed on-grid tariff is RMB 0.9/kWh. By checking the electricity sales invoice /55/ to the grid company from 2016-2022, the tariff is also 0.9 CNY/kWh, the same with the estimated tariff. Therefore, it is not possible to increase the electricity price of this project by 11.72%.

Step 3: Barrier analysis

The PO has not chosen to apply barrier analysis.

Step 4: Common practice analysis

Common practice analysis has been carried out by using the methodology tool 24: Common Practice Version 03.1/26/ and its stepwise approach.

Since the investment analysis is done at the activity level, the project owner has also demonstrated the common practice analysis at activity (project plant) level.

Sub-step 1:*Calculate applicable capacity or output range*

The install capacity of the project is 30MW, so the applicable capacity range is assessed as 15 to 45 MW.

Sub-step 2:*Identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:*

Conditions	verification opinions
The project is located in the applicable geographic area.	Applicable. As per the Tool 24, applicable geographical area is by default Host Country and if the project owner opts to limit the applicable geographical area to a specific geographical area within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country. - It has been demonstrated by the project owner and verified by the

		verification team that the Provinces in China are very large in terms of geographical area, population size and natural resource availability.The Investment and regulatory environment vary significantly between provinces in China. For example, the tariff for solar power projects is decided by the central government but not uniform across all provinces. The country is divided into four zone for tariff regulation. There is a significant difference of tariff rates between each zone i.e. like zone I provinces have very higher expected PLF, and tariff is lower (0.47 Yuan/KWh) as compared to Zone IV provinces (project activity location) which has less PLF and higher tariff. - Further, the Chinese grid is also divided into 6 different regional grids having different grid regulation. Also, each province does have a separate regulatory policy as well as project approval/EIA approval process. This fact is evident from the current project activity, where EIA and project approval /5/ are processed through regional approval bodies of the Inner Mongolia Autonomous Region. - The applicable tariff policy, solar pattern and approval from provincial governments varies in China and thus the project owner has selected Inner Mongolia Autonomous Region only for the common practice analysis. - Since it is substantiated that all province, grids and zones have different investment climate, the geographical area of Inner Mongolia Autonomous Region is accepted by the verification team for common practice analysis.
	The project uses the same technology as this project.	This project is a renewable energy power generation project of solar power generation, so similar projects are also solar energy power generation projects.
	If the project activity involves energy conversion, the project will use the same energy/fuel and feedstock as the project activity.	This project is a renewable energy power generation project of solar power generation, so similar projects are also solar energy power generation projects.
	The Project power plant and the project active power plant provide comparable and identical products/services.	This project is a renewable energy power generation project of solar power generation, so similar projects are also solar energy power generation projects.

The project capacity scope is the same as that in Step 1.	The designed installed capacity of this project is 30MW, so the applicable installed capacity range is 15 MW~45 MW.
The commencement of commercial operation of the Project is prior to the publication of the proposed Project documents or the proposed project commencement date, whichever is earlier.	The proposed project is a solar power generation project, and the EPC contract was signed on 01/10/2015. Therefore, similar projects that were put into operation before the EPC contract date were selected.

Thus, the project owner has correctly identified criteria for similar project identification with relevant applicable date.

The selection of projects for both Project A and B is based on China Electric Power Yearbook 2016-2018/27/ and cross verified with Inner Mongolia Autonomous Region and information with the help of local expert. It has been concluded that the project owner has appropriately considered all the available projects as per the applicable selection criteria defined for the common practice analysis of current project.

Sub-step 3: *Within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing verification. Note their number,* N_{all}.

The project owner has identified the total of 13 projects which were implemented or under operation at time of the start date considered. And all registered emission reduction projects.
Following 13 projects are identified:

Project name	Remark	Installed capacity (MW)
Inner Mongolia Chayouhouqi Hongmu Phase I 20MWp Solar Power Project	CDM	20
CGN Damao Bailingmiao Photovoltaic Farm 20MWp Phase I Project	CDM	20
SEC Northern Energy Holding Co., Ltd. Xilinguole Xianghuangqi 20MWp Solar PV Power Generation Project	CDM	20
Inner Mongolia Alashanzuoqi Bayanhaote 20MWp Solar Power Project	CDM	20
Inner Mongolia Alashan 20 MWp Solar Power Project	CDM	20
Beijing Jingneng New Energy Co., Ltd. Sunite Youqi Saihan Wind Farm Wind Power and Solar Power Integration 20MWp Solar Power Generation Project	CCER	20
Guodian Power Inner Mongolia New Energy Development Co., Ltd. Tuyouqi 20MWp Solar PV Power Generation Project	CCER	20
Guodian Power Inner Mongolia New Energy Development Co., Ltd. Azuoqi Barun Bieli	CCER	40

	40MWp PV Power Generation Project		
	Inner Mongolia Dayouguang Energy Co., Ltd. 30 MW PV large-scale grid-connected Power Generation Project	CCER	30
	20 MW Facility Agricultural Photovoltaic Power Generation Project in Dengkou County, Bayannaoer	CCER	20
	20 MW Photovoltaic Power Generation Project in Wuhai Economic Development Zone Low Carbon Industrial Park	CCER	20
	Guohua Bayannaoer City Wulate Zhongqi 20 MW Wind and Solar PV power generation project	CCER	20
	Beijing Jingneng New Energy Co., Ltd. Xilin Gol League Xianghuangqi Wengongwula 20 MW Wind and Solar Photovoltaic Power Generation Project	CCER	20

Sub-step 4*: Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number* N_{diff}.

The projects in the Inner Mongolia Autonomous installed capacity with 15-45 MW,which were listed in the table above.To sum up,the solar power generation projects have registered the CDM or CCER before 01/10/2015. Therefore, N_{all} = 0.

Thus N_{diff}=0.

Sub-step 5*: Calculate factor F=1-Ndiff/Nall representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.*

The proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and Nall-Ndiff is greater than 3.

F=1- Ndiff/ Nall =0<0.2
Nall- Ndiff=0

Hence, it is concluded that the proposed project is not common practice within the region.

Thus, the project is validated as not a common practice in applied geographical region and hence additional.

Findings	CAR#01 was raised
Conclusion	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 crosscheck the information contained in the PSF. The verification team determined that the evidence assessed is credible, where appropriate.

D.3.6 Estimation of emission reductions or net anthropogenic removal

Means of Project Verification	In accordance with the applied methodology ACM0002 (Version 21.0)/29/, the PSF has calculated Emission Reductions in the following manner: ERy = BEy – PEy–LEy Where, ERy - Emission reductions in year y (t CO_2e) BEy - Baseline Emissions in year y (t CO_2e) PEy - Project Emissions in year y (t CO_2e) LEy - Leakage emissions in year y (t CO_2e) Baseline Emissions(BEy）: As the applied methodology, baseline emissions include only CO_2 emissions from electricity generation in power plants that are displaced due to the project activity. BEy = EGPJ,y × EFgrid,y Where, BEy - Baseline Emissions in year y (t CO_2e)) EGPJ,y -Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the GCC project activity in project year y EFgrid,y -CO_2 emission factor for grid connected power generation in year y 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. Total generation (net electricity generation supplied by the project to the Grid) is estimated as 475,764 MWh from 17/01/2016 to 16/01/2026. Therefore,EGPJ,y = 475,764 MWh. EFgrid,y =0.8269 tCO_2/MWh BEy =EGPJ,y * EFgrid,y = 475,764 MWh×0.8269 tCO2/MWh =393,403 tCO_2e The calculation method of EFgrid,y is as follows: Determination of Grid emission factor (EFgrid,y) Following ACM0002 and “Tool to calculate the emission factor for an electricity system”, the baseline emission factor (EFy) is calculated as a combined margin (EFgrid,CM), consisting of the combination of operating margin (EFgrid,OM,) and build margin (EFgrid,BM,) factors according to the following seven steps defined in the “Tool to calculate the emission factor for an electricity system” (version 7.0)/30/. Data for the calculations are based on the latest emission factor of the NCPG grid in China as approved by Chinese DNA/31/. Step1. Identify the relevant electricity systems. Step2. Choose whether to include off-grid power plants in the project electricity system (optional). Step3. Select a method to determine the operating margin (OM). Step4. Calculate the operating margin emission factor according to the selected method. Step5. Calculate the build margin emission factor. Step6. Calculate the combined margin (CM) emissions factor. **Step 1: Identify the relevant electricity systems** In accordance with step 1 of Tool, the project owner has identified the electricity system which is North China Power Grid (NCPG). This project site is in Inner Mongolia Autonomous Region of China, which belongs to North China Power Grid. Therefore, NCPG is chosen as the relevant electric power system. Electricity transfers form connected electricity systems to the project electricity system are defined as electricity imports and electricity transfers to connected electricity systems are defined as electricity exports. It is determinined the operating margin emission factor,the CO_2 emission factor(s) for net electricity imports (EFgrid,import,y) is 0 tCO_2/MWh.

	Step 2: Choose whether to include off-grid power plants in the project electricity system (optional) The values of OM and BM have been determined ex-ante since the PO has considered option I "Only grid power plants are included in the calculation". **Step 3: Select a method to determine the operating margin (OM)** The Project owner has used the simple operating margin calculation method to determine the operating margin (OM). Verification Team has verified the "China Electricity Yearbook"/27/,the share of low-cost/must-run generation in CCPG is much lower than 50%. The Simple OM method, therefore, is selected to calculate the Operating Margin emission factor of the proposed project. The PO choose the Ex-ante option to calculate the simple OM. (Ex-ante option):If the ex ante option is chosen, the emission factor is determined once at the verification stage, thus no monitoring and recalculation of the emissions factor during the crediting period is required. For grid power plants, use a 3-year generation-weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for verification. **Step 4: Calculate the operating margin emission factor according to the selected method** Simple operating margin has been calculated as per Option B as stipulated under Para 47 (b) of Methodological Tool 07, version 07. The PO has considered an average of the latest available three years i.e., 2015, 2016 and 2017 for calculation of simple OM emission factor. The value for weighted average operating margin has been validated and used as 0.9419 tCO_2/MWh/31/. **Step 5: Calculate the build margin (BM) emission factor** According to the per section 6.5 of Methodological Tool 07(version 07), PO has chosen the option 1 to get the BM. For the reason, China's Baseline emission factors of regional grids 2019 (BEF2019) published by the Ministry of Ecology and Environment of the People's Republic of China, Option 1 is appropriate for the project. Under the requirement of GCC Clarification No.03, when determining the baseline grid emission factor, the latest available emission factor of the Grid in a country as approved by its relevant National Authority or Designated National Authority (DNA) under CDM or UNFCCC focal point, in case DNA doesn't exist. Based on the most recent three years (2015-2017) where the data are the latest and available at the time of this PSF submission. The data is published by Ministry of Ecology and Environment of the People's Republic of China/8/. Thus, the determination of baseline grid emission factor for the project activity meets the requirement of GCC Clarification No. 03. The build margin emission factor EFgrid,BM,y of NCPG is calculated as 0.4819 tCO_2/MWh/8/. **Step 6: Calculate the combined margin (CM) emission factor** The combined margin (CM) emission factor is calculated based on the method weighted average CM. The weighted average combined margin has been calculated by the PO, considering the 75% weighted for operating margin and 25% for build margin; this is in accordance with the tool which states that for "Wind and solar power generation project activities: WOM = 0.75 and WBM = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods". EFgrid,CM,y = EFgrid,OM,y ×wOM + EFgrid,BM,y×wBM EFgrid,OM,y-Operating margin CO_2 emission factor for the project electricity system in year y (tCO_2e/MWh) EFgrid,BM,y-Build margin CO2 emission for the project electricity system factor in year y (tCO_2e/MWh)

	wOM-Weighting of operating margin emissions factor (%) wBM-Weighting of build margin emissions factor (%) On the basis of these weights for the first crediting period, the combined margin emission factor is calculated, and fixed ex-ante: EFgrid,CM,y =0.9419 ×0.75+0.4819 × 0.25 =0.8269 tCO_2/MWh Baseline emissions (BEy) now can be calculated as the combined margin CO_2 emission factor (EFgrid,CM,y) multiplied by the annual net generation of the Proposed Project (EGPJ,y) **Project Emission (PEy):** According to ACM0002 (Version 21.0), for most renewable power generation project activities, PEy = 0. **Leakage Emission (LEy):** According to ACM0002 (Version 21.0), no leakage is considered. The main emissions potentially giving rise to leakage are neglected. **Emission Reductions(ERy):** ERy = BEy - PEy = 393,403 tCO_2 e – 0 tCO_2 e = 393,403 tCO_2e. The annual emission reductions are estimated to be: 39,340 tCO_2. The proposed project activity is expected to achieve 393,403 tCO_2e of net emission reductions during the 10-year crediting period.
Findings	No findings were raised
Conclusion	The verification team confirms the following; 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 proposed 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.

D.3.7 Monitoring plan

Means of Project Verification	The monitoring plan is included in Section B.7 of the PSF/1/ based on the approved monitoring methodology ACM0002 (Version 21.0)/29/ is correctly applied to the project activity.The monitoring plan includes following parameters:

1	CO_2 Emissions reduction	Reduction of CO_2 emissions due to implementation of project activity that would otherwise be emitted by the connected power plants. The monitoring of parameter will be done in each verification based on calculation from the continuously monitored electricity generation. The monitoring parameter will be continuously monitored and at least monly recording. The calculation procedures for the reduction in CO_2 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.

	2	$EG_{facility,y}$	Net electricity supplied to the grid by the Project activity. The monitoring parameter will be continuously monitored by means of main meters and back-up bi-directional electricity meter of 0.2s accuracy class. In accordance with applied methodology, the calibration of meters, including the frequency of calibration will be done in accordance with national standards or requirements set by the meter supplier or requirements set by the grid operators. The accuracy of electricity meters shall follow the requirements of "DL/T448-2016 Technical Administrative Code of Electric Energy Metering"/52/. 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. The meters will be calibrated once a year. The monitoring parameter will be will be continuously monitored and at least monly recording. The project owner has also defined the management structure, data collection procedures and management and quality assurance procedures in the PSF. The same has been checked and found appropriately sufficient to deliver the adequate and quality data for calculation of emission reductions. The monitoring parameter will be recorded for emission reduction on monthly basis in accordance with the applied methodology
	3	Number of people employed by the project	Creating new employment opportunities. The PO has claimed that at any given point there would be atleast 8 people employed by the project. At the time of project verification employment records for 8 employees, social security payments which is paid by the project owner have been verified. The monitoring parameter will be maintained in records.
	4	Job related training	Number of trainings provided The project developer has claimed that the staff employed would be trained technical training. All employees will be covered. Job related training will be recorded and maintained.
	5	Solid waste Pollution from Plastics	Plastic solid waste from the equipment packing material or plastic used. Solid waste from plastics will be recycled by waste recycling company. Non-recyclable parts will be collected and sent to Sanitation department for treatment. The details of Solid waste pollution from plastics will be maintained in records for future verification.
	6	Hazardous wastes	The solid waste pollution from hazardous wastes comes from waste grease and oily rags.Hazardous wastes will be properly collected, temporarily stored in the specific storage facility at the project site and then transferred to qualified entity for treatment at periodic interval.The details of Hazardous wastes will be maintained in records for future verification.
	7	Solid waste pollution from end-of-life equipment	Solid waste pollution from end-of-life equipment includes waste PV modules, electronic cards, cables, transformers, inverters etc. Solid waste from end-of-life equipment will be recycled by waste recycling company. Non-recyclable parts will be collected and sent to Sanitation department for treatment. PV modules are collected and stored at specific locations and collected by special facilities and treated by qualified company. The details of Solid waste from end-of-life equipment will be maintained in records for future verification.

	8	Accidents occurred at project site	The purpose of the project is to monitor a social impact identified as Harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of PRMA 04. Times of accidents at the project site and safety training records. The accident records will be maintained in records for future verification.
Findings	No funding was raised.		
Conclusion	The verification team confirms that: 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.		

D.4. Start date, crediting period and duration

Means of Project Verification	The start date of the crediting period has been revised to 17/01/2016, which is the date when the start date of operation. The verification team cross-checked the environmental acceptance comments, environmental acceptance comments state that the project was put into trial operation on 17/01/2016. The assessment team confirmed the start operation date by checking the Project environmental acceptance approval documents /56/, which was approved by Inner Mongolia Alxa Zuoqi Environmental and Ecological Bureau on 23/06/2017. The excepted operational lifetime of the project activity is 25 years. The project lifetime was cross-checked by reviewing the EIA /5/, quality supervision and inspection report /44/ and project license/19/.
Findings	No funding was raised.
Conclusion	The start date of the project activity indicated has been checked from provisional acceptance certificate. The expected operational lifetime of the project activity has been indicated in the PSF and is deemed reasonable

D.5. Environmental impacts

Means of Project Verification	The project owner has conducted Environment Impact Assessment in 2013/5/. The EIA is approved by Environment Protection Bureau of Alashan on 26/08/2013. The construction of the project conforms to the national standards and regulations. The project owner has stated that the project will not have a threat to the atmosphere, water and noise. The project will not produce exhaust gases to pollute the air. Wastewater only involves the cleaning wastewater of solar electric panels and domestic sewage, which does not require corresponding treatment process and can be discharged naturally.Noise can come from inverters and boosters, more than 20m around the instrument will not be affected by noise, and the residents around the project are 12km away, so the project will not affect the noise of the surrounding environment. Solid waste comes from the construction and operation process, The solid waste generated during the operation period of the solar power station is waste capacitors, reactors, transformers and photovoltaic module, which are first piled up in a temporary storage warehouse, and then periodically recycled by the manufacturer for disposal. The solid waste generated after the decommissioning is waste equipment and waste solar panels, which are recycled and processed by the manufacturer. By reviewing the environmental impact assessment report form of the construction project of this project, the verification team confirmed that the environmental impacts caused by the project have been listed in the project submission form, and specific countermeasures have also been proposed for the environmental impacts that may be caused by each link. After interview with project owners, the verification team confirmed that the project will not have a significant impact on the local environment by taking the relevant measures described in the construction project environmental impact assessment report form.
Findings	No findings were raised
Conclusion	The project has little impact on the environment, and the owner has taken strong measures to ensure that the project does not have a threat to the environment

D.6. Local stakeholder consultation

Means of Project Verification	On 01/05/2015, the project owner carried out a survey/9/ of the local residents around the project location. An invitation notice for stakeholder comments was later issued by the project developer, 30 representatives of local stakeholders, including governmental officials of local village and local residents attended the meeting to discuss the questionnaires collected and further introduce the project. No negative opinion on construction of the project is heard and environmental considerations expressed by stakeholders are discussed on the meeting. According to the survey results, 93% representatives support the implementation of the project. 87% representatives think the project will cause to the local employment, 13% representatives have no idea. 87% representatives have the positive attitudes that project will cause to the local economic development.90% representatives think the project will cause negative impacts on their life and work. During the session, program managers answered three program-related questions for participants. For the discarded solar electric panels, there will be recycled by

	manufacturers or specialized company for treatment. The project will not create land use issues. The project will create jobs for local residents and provide professional training. The project verification team determined the local stakeholder consultation process was in accordance with the applicable Project Verification requirements related to the local stakeholder consultation in the Verification Standard and Project Standard using the onsite observation, interview with local stakeholders and review of LSC documents. The objective of the local stakeholder consultation carried out to comply with GCC requirements and identify the comments/concerns that might be required to be addressed by PO. The stakeholder consultation responses /9/ was received by the assessment team. The verification team confirmed by review of the stakeholder responses/9/ that the summary of stakeholders' comments reported in PSF was accurate. There was no negative feedback received. The list of the relevant stakeholders who were requested for feedback is also provided in the PSF/1/. No net Harm to Environment/Society and SDG impacts of project were also discussed.
Findings	No findings were raised
Conclusion	The verification 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 participant considering the ongoing pandemic to receive unbiased comments from the all the stakeholders. The verification team confirms that the local stakeholder consultation process performed for the project activity fulfils the requirements.

D.7. Approval and Authorization- Host Country Clearance

Means of Project Verification	As per the GCC program guidelines the submission of HCA on double counting is required by CORSIA labelled project after 31/12/2020 as verified under section D.13 of this report. For carbon credits generated from 01/01/2016 to 31/12/2020 the HC approval is not required. Thus, for this project activity Host country clearance is not required at the time of project verification.
Findings	FAR #01 was raised. Please refer to the appendix 4 for further details.
Conclusion	The verification team confirms that no HC approval is required for CORSIA labelled project activity and the HCA will be required during the first or subsequent verification, when the issuance of carbon credit is considered beyond 1st Jan 2021.

D.8. Project Owner- Identification and communication

Means of Project Verification	The information and contact details of the representation of the project owner and project owners themselves have been appropriately incorporated in Appendix 1 of the PSF which was checked and verified by the verification team from Authorization letter signed by the project owners. All information was consistent between these documents. Business licenses /19/, Grid-connected scheduling protocol /12/, power purchase and sale contract /25/ and other supporting (permits, FSR approval /6/, EIA approval /5/) documentations used to verify the corporate identity of the legal owners, Project Owner and the authorized focal point as defined in the Letter of Authorization /17/.
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.

D.9. Global stakeholder consultation

Means of Project Verification	The PSF was made available through the dedicated interface on the GCC website. The duration of the period for submission of comments for the global stakeholder consultation was from 12/05/2022 to 26/06/2022. There were no comments received during this period.
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.

D.10. Environmental Safeguards (E+)

Means of Project Verification	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. Following impacts have been identified and verified by the team, -Environment-Air-CO_2 emissions (scored): The impact is being monitored through CO_2 emissions reduction generated by the project and does not require separate monitoring procedure. -Replacing fossil fuels with renewable sources of energy (scored): 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). -Solid waste Pollution from Plastics (scored): The impact expected is minimal and the impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored and verified under section D.3.7 of the report. -Solid waste Pollution from Hazardous wastes (scored): The impact expected is minimal and mitigation measures/process identified. The impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored and verified under section D.3.7 of the report. -Solid waste Pollution from end of life products/ equipment (scored)： The impact expected is minimal and mitigation measures/process identified. The impact will be monitored throughout crediting period to check the regulatory compliance. The parameter is being monitored and verified under section D.3.7 of the report. -Generation of wastewater (not scored)： Wastewater may be generated from solar panels cleaning by the project.Wastewater from solar panels cleaning includes mainly dust, which does not require treatment. After flowing to the ground, it will evaporate naturally. The detailed matrix has been included in appendix 5 of the report.
Findings	No findings were raised

Conclusion	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.

D.11. Social Safeguards (S+)

Means of Project Verification	The assessment of the impact of the project activity on the Social safeguards has been carried out in section E.2 of the PSF/1/ Out of all the safeguards no risks to the society due to the project implementation were identified and the following have been indicated as positive impacts Social – Jobs: Long-term jobs (> 1 year) created/ lost Social - Health & Safety: Reducing / increasing accidents cial – Education: Job related trainings imparted or not An appropriate monitoring plan has been put in place to monitor both the elements. The monitoring plan has been verified by assessment in section D.3.7. The net score marked three is reasonable, the Project Activity will not cause any net harm to society. The detailed matrix has been included in appendix 6 of the report.
Findings	No findings were raised
Conclusion	Based on the documentation review the verification team can confirm that Project Activity is not likely to cause any negative harm to the society but would have a positive impact, hence, is eligible to achieve additional S+ certifications

D.12. Sustainable development Goals (SDG+)

Means of Project Verification	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 3 SDGs: a) Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all b) Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all c) Goal 13. Take urgent action to combat climate change and its impact An appropriate monitoring plan has been put in place to monitor both the elements. The detailed matrix has been included in appendix 7 of the report.
Findings	No findings were raised
Conclusion	Based on the documentation review the verification team can confirm that Project Activity is not likely to contribute to the United Nations Sustainable Development Goals and would have a positive impact, hence, is eligible to achieve additional SDG+ certifications

D.13. Authorization on Double Counting from Host Country (for CORSIA)

Means of Project Verification	A declaration under section A.5 of the PSF/1/ has been included for offsetting the approved carbon credits (ACCs) for the entire crediting period from 17/01/2016 to

	16/01/2026 and the host country attestation has been obtained confirming the authorization on double counting.
Findings	FAR#01 was raised.
Conclusion	The project owner has clarified the intent of use of carbon credits for CORSIA hence no double counting will take place

D.14. CORSIA Eligibility (C+)

Means of Project Verification	As per the GCC clarification No 01, version 1.3, the project owners shall meet following requirements at the registration stage. 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; - The project activity has start date of 17/01/2016 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; - The project activity is a solar power plant which would 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+); - 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 Sustainable Development Goals (SDGs) and has contributed to achieving at least three SDGs and therefore targets to achieve Silver or higher SDG certification label (SDG+); - The section F of PSF sufficiently demonstrates contribution to the al least 3 UN SDG Goals and same has been verified with project achieving Silver 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; - 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. 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.
Finding	Since the project crediting period is beyond 31/12/2020, FAR#01 has been raised for submission of the HCLOA at issuance stage. The project owner needs to submit HCLOA at the time of Emission Reduction verification stage. FAR#01 Remains OPEN.
Conclusion	The project owner has clarified the intent of use of carbon credits for CORSIA hence no double counting will take place. The Project Activity complies with all the applicable requirement for the Emission Unit Criteria of CORSIA and is issued a CORSIA Label (C+) certification valid till 31 December 2020. A written attestation from the host country's national focal point is not required till 31 December 2020.

Section E. Internal quality contron

Through interviews with project ower, the verification team determined that the project submission form contains a complete monitoring plan that clearly describes all the necessary parameters specified in the methodology. After verification, the monitoring plan meets the requirements of the Guidelines , and the design of the monitoring plan is operational. At the same time, data management, quality assurance and

quality control procedures are sufficient to ensure that the emission reductions generated by project activities can be reported and verifiable afterwards, so as to better ensure the accuracy of monitoring data.
In summary, the verification team confirmed that the project submission form clearly described all the required parameters specified in the methodology and that the monitoring method met the methodological requirements. The design is operational, and data management, quality assurance and quality control procedures are sufficient to ensure that emission reductions generated by project activities are reported ex post facto and verifiable.

Section F. Project Verification opinion

>>

CTI was contracted by Prestige Investment Management (Shanghai) Co. Ltd. for verification of the project activity.The verification was performed based on rules and requirements defined by GCC program for the project activity;

This project belongs to the solar power grid-connected power generation project, and realizes the emission reduction of greenhouse gases by replacing the same amount of electricity generated by the North China Power Grid dominated by fossil energy. After review, the verification team confirmed that the project has not been registered in other GHG/non GHG program except for the application to become GCC. The start date of the project is 17/01/2016, which belongs to the project category A2;

This project has correctly adopted the methodology ACM0002,"Grid-connected electricity generation from renewable sources", V21.0;

The objectives of this project verification is to verify that the GCC project meets the requirements of GCC project framework v2.1, GCC program manual v3.1, GCC program processes v4.0, GCC project standard v3.1, GCC project sustainability standard v2.1, GCC verification standard v3.1, GCC Environment & Social safeguards standard v2.0, ISO 14064-2 & ISO 14064-3, applicable approved CDM Methodology for -Grid Connected Renewable Energy Generation Projects ACM0002 v21.0, Applicable Legal requirements/rules of host country, National Sustainable Development Criteria and CORSIA requirements and other GCC requirements related to aspects such as project design, applicable conditions, project boundary, baseline scenarios, additionality, emission reduction, monitoring plan, local stakeholder consultation, global stakeholder consultation, GHG emission reductions (ACCs), environmental no-net harm label (E+), social no net harm label (S+), silver SDG label (SDG+), CORSIA+.This report summarizes the final project verification opinion which is based on Project Submission Form v4.0;

The project is operational since 17/01/2016. The estimated annual net electricity generation and average annual emission reductions of the proposed project are 44,573 MWh and 39,340 tCO_2e, respectively. The total GHG emissions reductions in the chosen fixed 10 years crediting period amount to 393,403 tCO_2e;

The project is not likely to cause any net-harm to the environment and/or society and complies with the Environmental and Social Safeguards Standard, 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+);

The project is likely to contribute to the achievement of United Nations Sustainable Development Goals (SDGs), comply with the Project Sustainability Standard, and contribute to achieving a total of 3 SDGs, which is likely to achieve the Silver SDG certification label (SDG+).

Appendix 1. Abbreviation

Abbreviations	Full texts
ACC	Approved Carbon Credits
ACM	Approved Consolidated Methodology
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 di oxide
CP	Crediting Period
DNA	Designated National Authority
DR	Desk Review
EIA	Environmental Impact Assessment
ESPL	Earthood Services Processes and Landforms
FAR	Forward Action Request
GHG	Green House Gas
GW	Giga Watt
GWh	Giga Watt hour
IPCC	Intergovernmental Panel on Climate Change
kW	kilo Watt
kWh	kilo Watt hour
LSC	Local Stakeholder Consultation Process
MoV	Means of Verification
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
N_2O	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
SPV	Special Purpose Vehical
tCO_2e	Tonnes of Carbon dioxide equivalent
TPH	Tonnes Per Hour
UNFCCC	United Nations Framework Convention on Climate Change
V	Version
VS	Verification Standard

Appendix 2. Competence of team members and technical reviewer

Mr. Wu LIN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation
	TA 1.2: Energy generation from renewable energy sources
SS 2: Energy distribution	TA 2.1: Electricity distribution

SS 3: Energy demand	TA 3.1: Energy demand
SS 4: Manufacturing industries	TA 4.1: Cement and lime production
SS 5: Chemical industry	TA 5.1: Chemical industry
	TA 5.2: Caprolactam, nitric and adipic acid
SS 10: Fugitive emissions from fuels (solid, oil and gas)	TA 10.1: Fugitive emissions from oil and gas
SS 11: Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1: Emissions of fluorinated gases
	TA 11.2: Refrigerant gas production
SS 12: Solvents use	TA 12.1: Chemical industry
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:
Lu ZHOU
General Manager
Shenzhen, 01/01/2021

Ms. Yazi CHEN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	-	-	-	-	-	√

Scope	**Technical Area**
Financial Expert	Financial Expert

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by: Wu Lin
Wu LIN
Technical Competent Manager
Shenzhen, 10/01/2022

Ms. Shunrong LIN

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 3: Energy demand	TA 3.1: Energy demand
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure
SS 14: Afforestation and reforestation	TA 14.1: Afforestation and reforestation
SS 15: Agriculture	TA 15.1: Agriculture

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by: Wu Lin
Wu LIN
Technical Competent Manager
Shenzhen, 25/10/2022

Qualified verifier and reviewer for assessment SDGs, E+, S+ under GCC program

Name	SDGs, E+, S+ Verifier	SDGs, E+, S+ independent reviewer
Mr. Wu LIN	Yes	Yes
Ms. Shunrong LIN	Yes	Yes

Appendix 3. Document reviewed or referenced

No.	Author	Title	References to the document	Provider
1	PO	PSF 04.0	Ver. 3.2	PO
2	PO	PSF 01.0	Ver. 3.2	PO
3	GCC	GCC Verification Standard	Ver. 3.1	Others
4	PO	project activity details	2022	PO
5	Alxa Left Banner Guodian Photovoltaic Power Co., Ltd.; Environment Protection Bureau of Alashan	EIA Report and approval	04/2013(EIA report);26/08/2013(EIA approval)	Others
6	Inner Mongolia Green Energy New Energy Co., Ltd; the Development and Reform Commission of Inner Mongolia Autonomous Region	Project feasibility report and approval	09/2015(PDR report);31/07/2012(approval)	Others
7	PO	EPC	05/01/2016	PO
8	Ministry of Ecology and Environment of the People's Republic of	2019 Baseline Emission Factors for Regional Power Grids in China, published by Chinese DNA	2020	Others
9	PO	Local stakeholder consultation supporting documents	05/2015	PO
10	PO	Statement on "Alxa League Jilantai 30MW Solar Power Project" not participating in other emission reduction mechanisms	2022	PO
11	GCC	the Project Standard, version 03.1	Ver.03.1	GCC
12	National Energy Administration National Administration for Industry and Commerce	Grid-connected scheduling protocol	2016	Others
13	PO	Equipment purchase contract made with the suppliers for the plant	10/2015	PO
14	PO	Meter Installation Photos	2022	PO
15	PO	The power grid diagram	2022	PO
16	PO	Equipment list, including nameplate photographs.	2022	PO
17	PO	Project owner through letter of authorization	2022	PO

18	UNFCCC	Standard on Avoidance of Double Counting, version 1.0	version 1.0	Others
19	PO	Manufacturer License	/	PO
20	National Energy Administration	Renewable energy law of the people's Republic of China	2013	Others
21	UNFCCC	Tool 1: Tool for the demonstration and assessment of additionality	Version 13.0	Others
22	UNFCCC	Tool 27: Investment Analysis	Version 12.0	Others
23	State Grid Corporation of China	Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects	2003	Others
24	PO	IRR	2022	PO
25	PO	power purchase and sale contract of this project (2016-2019)	2016-2019	PO
26	UNFCCC	tool 24: Common Practice Version 03.1	Version 3.1	Others
27	State Grid Corporation of China	China Electric Power Yearbook 2016-2018	2016-2018	Others
28	PO	The excel of common practice analysis	2022	PO
29	UNFCCC	ACM0002 “Grid-connected electricity generation from renewable sources” (Version 21.0)	Version 21.0	Others
30	UNFCCC	“Tool to calculate the emission factor for an electricity system” (version 7.0)	Version 7.0	Others
31	Ministry of Ecology and Environment of the People's Republic of	Chinese DNA	2020	Others
32	PO	The approval of the feed-in tariff of Alxa League Jilantai 30MW Solar Power Project.	2016	PO
33	Development and Reform	"Notice of National Development and Reform Commission on Playing the Role of Price Leverage to Promote the Healthy Development of Photovoltaic Industry" (Development and Reform Price [2013] No. 1638)	2013	Others
34	Government of China	China’s Sustainable Development Repor	2019	Others
35	NDRC	Notice Regarding the Regulations for Electricity Generation from Renewable Energy, Fa gai neng yuan [2006] No.13 http://www.sdpc.gov.cn/nyjt/nyzywx/t20060206_58766.htm	5 January 2006	Others
36	Standing Committee of the tenth National People’s Congress	Law of the People’s Republic of China on Renewable Energies, http://www.gov.cn/ziliao/flfg/2005-06/21/content_8275.htm	28 Feburary 2005	Others
37	China Planning Press	Document for Registered Engineering Consultants in China	2008	Others
38	State Council of	Approval and Implementation of	11 April 2002	Others

	China	Power Industry System Reform in China http://www.ndrc.gov.cn/xwfb/t20050708_28096.htm		
39	Standing Committee of the Seventh National People's Congress	Environmental Protection Law of the People's Republic of China http://www.law-lib.com/law/law_view.asp?id=6229	26 December 1989	Others
40	The General Office of the State Council	Notice on Strictly Prohibiting the Installation of Fuel-fired Generation with the Capacity of 135 MW or below, Decree [2002] No.6. http://www.gov.cn/gongbao/content/2002/content_61480.htm	14 April, 2002	Others
41	PRC National Development and Reform Commission	Pilot scheme for the management of renewable energy generation prices and cost-sharing https://www.gov.cn/ztzl/2006-01/20/content_165910.htm	Last accessed19/12/2022	Others
42	State Council Office of the People's Republic of China	Notice of the State Council on Several Opinions on Accelerating the Shutdown of Small Coal-fired, Power Units http://www.gov.cn/zwgk/2007-01/26/content_509911.htm	Last accessed19/12/2022	Others
43	Ministry of Housing and Urban-Rural Development	The announcement of the General Specification for Energy Efficiency and Renewable Energy Use in Buildings https://news.solarbe.com/202204/01/353143.html	08/09/2021	Others
44	Inner Mongolia Electric Power Construction Engineering Quality Supervision Center Station	Notice of Quality Supervision and Inspection Report before Commercial Operation	23/05/2017	PO
45	Government of People's Republic China	Regulations for the Implementation of the Enterprise Income Tax Law of the People's Republic of China" (Order No. 512 of the State Council) http://www.gov.cn/gongbao/content/2008/content_859860.htm	01/01/2008	Others
46	State Tax Bureau of China	Notice on Determination of Residual Rate for Enterprise Fixed Asset, Guo Shui Han [2005] No. 883 http://www.chinatax.gov.cn/chinatax/n810341/n810765/n812188/20050509/c1199412/content.html	14/09/2005	Others
47	Government of People's Republic China	Interim Regulations of the People's Republic of China on Value Added Tax	10/11/2008; 19/12/2008	Others

		http://www.chinatax.gov.cn/n810341/n810765/n812171/n812680/c119 0937/content.html Notice on Several Issues Concerning the Implementation of the Transformation and Reform of Value-Added Tax in the Country http://www.chinatax.gov.cn/chinatax/n810341/n810765/n812146/2013 09/c1080750/content.html		
48	Government of People's Republic China	Interim Regulations of the People's Republic of China on Urban Maintenance and Construction Tax http://www.chinatax.gov.cn/chinatax/n365/c1409/content.html	08/01/2011	Others
49	State Council of China	Provisional Regulations of the People's Republic of China on Education Tax, No. 448 https://www.gov.cn/flfg/2005-09/26/content_70089.htm	20/08/2005	Others
50	State Council of China	Implementation Rules of Enterprise Income Tax Law of People's Republic of China, State Council Document No.512 http://www.gov.cn/zwgk/2007-12/11/content_830645.htm	1 January 2008	Others
51	Ministry of Finance	Implementation Rules for Provisional Regulation of Enterprise Income Tax of People's Republic of China, Cai Fa Zi [1994] No.3 http://www.chinaacc.com/new/63/67/84/1993/12/ad22761730111722139917400.htm	31 December 2007	Others
52	Government of P.R. China Technical Administrative Code of Electric Energy Metering (DL/T448-2016) 2016 Project	Government of P.R. China Technical Administrative Code of Electric Energy Metering (DL/T448-2016)	2016	Others
53	Government of P.R. China	Code for Design of Photovoltaic Power Stations	GB50797-2012	Others
54	CDM	Investment analysis, Benchmark input parameters issued by CDM DOEs for various CDM registered solar power projects e.g. below projects with their CDM registration numbers: 7960,8098,9817,9955,8721 7960: https://cdm.unfccc.int/Projects/DB/DNV-CUK1351688176.32/view 8098: https://cdm.unfccc.int/Projects/DB/	/	Others

		JCI1352366326.72/view 9817:https://cdm.unfccc.int/Projects/DB/Applus1387359313.06/view 9955: https://cdm.unfccc.int/Projects/DB/CTI1399882315.23/view 8721: https://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1355367222.58/view		
55	PO	Electricity sales nvoice from 2016 to 2022.	/	Others
56	Environment Protection Bureau of Alashan	Project environmental acceptance approval documents	23/06/2017	Others
57	PO	Electricity generation records	From 2016 to 2021	PO

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

Table 1. CLs from this Project Verification

CL ID	01	**Section no.**	D3.1	**Date:** 10/08/2022
Description of CL				
The EIA report is requested to prove the environmental impacts and monitoring plans				
Project Owner's response				**Date:** 15/08/2022
The EIA report has been provided. Please refer to the relevant evidence documents.				
Documentation provided by Project Owner				
Revised PSF				
GCC Project Verifier assessment				**Date:** 16/08/2022
The Project owner has revised the PSF.Ok. Thus, CL01 stands closed.				

CL ID	02	**Section no.**	D3.1	**Date:** 10/08/2022
Description of CL				
By checking PSF(version 1.0 dated 21-04-2022), the nameplate information of Solar PV module is requested to be provided.				
Project Owner's response				**Date:** 15/08/2022
The nameplate information of Solar P V module has been provided. Please refer to the relevant evidence documents.				
Documentation provided by Project Owner				
Revised PSF				
GCC Project Verifier assessment				**Date:** 16/08/2022
The Project owner has revised the PSF.Ok. Thus, CL02 stands closed.				

Table 2. CARs from this Project Verification

CAR ID	01	**Section no.**	D.1.	**Date:** 10/08/2022
Description of CAR				
By checking PSF(version 1.0 dated 21-04-2022), Sensitivity analysis is not complete, PO is requested to supplement this item.				
Project Owner's response				**Date:**15/08/2022
Sensitivity analysis has been added to the Section B.5. Sub-step 2d: Sensitivity analysis. Please see details in the revised PSF.				
Documentation provided by Project Owner				
Revised PSF				
GCC Project Verifier assessment				**Date:** 16/08/2022
The Project owner has revised the PSF,PO has completed the sensitivity.Ok. Thus, CAR01 stands closed.				

CAR ID	02	**Section no.**	D.3.1	**Date:** 10/08/2022
Description of CAR				
By checking PSF(version 1.0 dated 21-04-2022), version of ACM002 is 20.0, PO is requested to update the version of methodology ACM002 and change the content in the application of methodology.				
Project Owner's response				**Date:**15/08/2022
Version of methodology ACM002 has been updated.				
Documentation provided by Project Owner				
Revised PSF				
GCC Project Verifier assessment				**Date:** 16/08/2022
The Project owner has revised the PSF,PO has revised the version of ACM002 and content in the applicability of methodology.Ok. Thus, CAR02 stands closed.				

Table 3. FARs from this Project Verification

FAR ID	01	**Section no.**		**Date:** 10/08/2023
Description of CAR				
The Crediting period of Project activity is beyond Pilot Phase of the CORSIA, hence in line with requirements of GCC Project Standard and GCC standard on double accounting				
Project Owner's response				**Date:**10/08/2023
The PP shall provide submission of Host Country Attestation during Issuance stage				
Documentation provided by Project Owner				
Statement of no double counting by PP				
GCC Project Verifier assessment				**Date:** 16/08/2022
PP has provided the attestation of no doubling counting and shall monitor the actual counting, whether single or doubling during Issuance stage.				

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**	
		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**	
				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**
Environmental impacts on the identified categories[5] indicated below.	*Indicators for environmental impacts*	*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.*	*Describe the applicable national regulatory requirements /legal limits related to the identified risks of environmental impacts.*	*If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable*** *(No actions required)*	*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)*	*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).*	*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****.*	*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****.*	*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, indicate them as* ***Harmless*** *(No actions required)*	*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).*	*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.*	*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****)*
Environmental Safeguards												
Environment *- Air*	*SO_x emissions*	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	NO_x emissions	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	CO_2 emissions	The project reduces CO_2 emissions	N.A.	-	The project reduces CO_2 emissions in	-	N.A.	N.A.	N.A.	The electricity generated	The project is expected to result in	+1

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

		since it reduces the amount of fossil fuel used. In case of "no project", stated amount of electricity would be generated from fossil fuels and cause air pollution.			the baseline; hence the project will not cause any harm in this regard					will be monitored and CO_2 emission reductions will be calculated accordingly. Please refer to section B.7.1	lower CO_2 emission than the baseline throughout the crediting period	
	CO emissions	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Suspended particulate matter (SPM) emissions	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Fly ash emissions	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Non-Methane Volatile Organic Compounds (NMVOCs)	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Odor emissions	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Noise Pollution	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Environment *- Land*	*Solid waste Pollution from Plastics*	There may be plastic solid waste from the equipment packing material or plastic used.	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste requires proper treatment of plastics.	-	Solid waste from plastics will be recycled by waste recycling company. Non-recyclable parts will be collected and sent to Sanitation department for treatment. Therefore,	-	N.A	N.A	N.A	Monitor the treatment of solid waste pollution from plastics throughout the entire crediting period, if any. Please refer to Section B 7.2. PRMA01.	Solid waste Pollution from Plastics Will be properly disposed, therefore it's harmless	+1

					harmless.							
	Solid waste Pollution from Hazardous wastes	Hazardous wastes like Waste grease and oily rags may be generated by the project during operation.	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste requires proper collection and treatment by qualified entity.	-	Hazardous wastes will be properly collected, temporarily stored in the specific storage facility at the project site and then transferred to qualified entity for treatment at periodic interval. therefore Harmless	-	N.A.	N.A.	N.A.	The hazardous waste transfer sheet will be monitored. Please refer to Section B 7.2. PRMA03	Solid waste Pollution from Hazardous wastes is properly disposed as per regulations; hence the project is deemed Harmless	+1
	Solid waste Pollution from Bio-medical wastes	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Solid waste Pollution from E-wastes	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Solid waste Pollution from Batteries	No batteries are used by the project	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Solid waste Pollution from end of life products/ equipment	Solid waste pollution from end-of-life equipment may be generated by the project.	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste requires proper treatment of solid waste	-	Solid waste from end-of-life equipment will be recycled by waste recycling company. Non-recyclable parts will be collected and sent to Sanitation department for	-	N.A.	N.A.	N.A.	Monitor the treatment of Solid waste pollution from end-of-life equipment throughout the entire crediting period, if any. Please refer to Section B 7.2. PRMA03	Solid waste from end-of-life equipment will be recycled by waste recycling company. Non-recyclable parts will be collected and sent to Sanitation department for	+1

					treatment. Therefore harmless						treatment, therefore, it is harmless.	
	Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury)	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Soil erosion	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Environment *- Water*	*Reliability/ accessibility of water supply*	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Water Consumption from ground and other sources	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Generation of wastewater	Wastewater may be generated from solar panels cleaning by the project. The wastewater only contains dust and will naturally evaporate without causing harmful impacts on the environment. Such impact is difficult to quantify.	Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Water Pollution requires proper treatment of wastewater.	-.	Wastewater from solar panels cleaning includes mainly dust, which does not require treatment. After flowing to the ground, it will evaporate naturally. hence the project is deemed Harmless	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Wastewater discharge without/with insufficient treatment	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Pollution of Surface,	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

	Ground and/or Bodies of water											
Environment *– Natural Resources*	*Conserving mineral resources*	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Protecting/ enhancing plant life	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Protecting/ enhancing species diversity	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Protecting/ enhancing forests	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Protecting/ enhancing other depletable natural resources	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Conserving energy	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	Replacing fossil fuels with renewable sources of energy	The project utilizes renewable solar energy to generate electricity, which will replace the electricity generated by fossil fuel plants of NCPG	N.A.	-	The project activity causes positive impact on the environment by replacing the fossil fuels with the renewable energy sources of energy	-	N.A.	N.A.	N.A.	The electricity generated will be monitored throughout the crediting period.	The project is expected to supply an average of 44,573 MWh renewable electricity to NCPG annually, hence this parameter will be scored. Please refer to Section B 7.1.	+1
	Replacing ODS with non-ODS refrigerants	N.A.	N.A.	N.A.	-	-	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
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.												

Net Score:	**+5**
Project Owner's Conclusion in PSF:	The Project Owner confirms that the Project Activity will not cause any net harm to the 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**		**3rd 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?**
Social impacts on the identified categories[6] indicated below.	*Indicators for social impacts*	*Describe the impacts on society and stakeholders, both positive and negative, that may result from constructing and operating of the Project Activity.*	*Describe the applicable national regulatory requirements / legal limits related to the identified risks of social impacts.*	*If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as* ***Not Applicable*** *(No actions required)*	*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)*	*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).*	*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****.*	*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****.*	*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)*	*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).*	*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.*	*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****)*	*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*	*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****)*

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

													unlikely to cause any harm.	
Social Safeguards														
Social - *Jobs*	*Long-term jobs (> 1 year) created/ lost*	The project is expected to create 8 long-term job opportunities	All employments are done according to national employment regulation	-	The social impact is expected to increase employment. This impact is positive and can be monitored hence the project is harmless.	-	N.A	N.A	N.A	Number of people employed by the project will be monitored through checking records. Please refer to Section B 7.1	The social impact is expected to increase employment, which can be confirmed by records.	+1	The projectoperation has created new job opportunities in the area.	+1
	New short-term jobs (< 1 year) created/ lost	N.A												
	Sources of income generation increased / reduced	N.A												

Social - *Health & Safety*	*Disease prevention*	*N.A*											
	Reducing / increasing accidents	There may be a fire hazard in the photovoltaic power plant, which may cause accident and injuries to employees.	All employment is done according to the national employment regulations (e.g., Law of Labor of China)	N.A.	-	The construction and the installation of photovoltaic power plants was standardized, and the operation and maintenance of photovoltaic power plants was strengthened, and employee safety training was provided. Thus, it is deemed as harmless.	N.A.	N.A.	N.A.	Project proponent will record regular safety training to their employees about the accident and risk related to specific works and preventive measures for avoiding accidents on site. Please refer to PRMA04 in section B.7.2.	Project proponent will record regular safety training to their employee about the accident and risk related to specific works and preventive measures for avoiding accidents on site.	+1	The records of safety training would be recorded, the monitoring plan is Appropriate for this parameter.	+1
	Reducing / increasing crime	N.A											
	Reducing / increasing food wastage	N.A											
	Reducing / increasing indoor air polluti	N.A											

	on												
	Efficiency of health services	N.A											
	Sanitation and waste management	N.A											
	Other health and safety issues	N.A											
	Add more rows if required	N.A											
Social - *Education*	*Job related training imparted or not*	The project owner provides job related training for employees	No regulation.	-	The project provides job related training for employees; hence it is harmless	-	N.A	N.A	N.A	The project provided the job-related training, it can be verified from the training records and attendance sheet.	Project owner confirms that by training the people on new technology it will upgrade their skills and creates positive impact. Hence it will be scored. Please refer to Section B	+1	Training records are maintained for all the training sessions imparted to the employees.	+1

											7.1.			
	Educational services improved or not	N.A												
	Project-related knowledge dissemination effective or not	N.A												
	Other educational issues	N.A												
	Add more rows if required													
Social - *Welfare*	*Improving/ deteriorating working conditions*	*N.A*												
	Community and rural welfar	N.A												

	e												
	Poverty alleviation (more people above poverty level)	N.A											
	Improving / deteriorating wealth distribution/ generation of income and assets	N.A											
	Increased or / deteriorating municipal revenues	N.A											
	Women's empowerment	N.A											
	Reduced / increased	N.A											

	traffic congestion													
	Other social welfare issues	N.A												
	Add more rows if required	N.A												
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.														
Net Score:	+3													
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** (to be included in Project Verification Report only)	
			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?**

Describe UN SDG targets and indicators *See: https://unstats.un.org/sdgs/indicators/indicators-list/*	*Describe the UN-level target(s) and correspo-nding indicator no(s)*	*Has the host country declared the SDG to be a national priority? Indicate Yes or No*	*Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope.* ***For guidance see:** Integrating the SDGs into Corporate Reporting- A Practical Guide: https://www.unglobalcompact.org/docs/publications/Practical_Guide_SDG_Reporting.pdf* *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*	*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-level SDG target(s). Refer to the previous column for guidance*	*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 column for guidance*	*Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets and is additional to what would have occurred in the absence of the Project Activity*	*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)*
Goal 1: End poverty in all its forms everywhere	N.A										
Goal 2: End hunger, achieve food	N.A										

security and improved nutrition and promote sustainable agriculture											
Goal 3. Ensure healthy lives and promote well-being for all at all ages	N.A										
Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	N.A										
Goal 5. Achieve gender equality and empower all women and girls	N.A										
Goal 6. Ensure	N.A										

availability and sustainable management of water and sanitation for all											
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	SDG Target 7.2	Yes https://www.cn.undp.org/content/china/en/home.html	The project generates electricity from the sustainable and renewable solar source and contributes to increase the share of renewables in the global energy mix. By installing advanced solar PV technology project owner also promotes upgraded cleaner technology solutions and infrastructure in the power generation sector in the host country.	Commission a 30MW solar power plant since 2016. Project target to generate and supply 44,573MWh of clean energy per year during the fixed crediting period to the national power grid.	Enhance the share of installed electricity generation capacity from renewable energy sources	The project increases the renewable energy share in energy production mix. it provides 44,573MWh /year clean energy to the power grid	Electricity supplied to the power grid by the project to be monitored as per section B.7 of the PSF	The project fully commissioned by 2016. Project implementation goes on without any problem.	Yes	The project fully commissioned in 2016. Project implementatiton goes on without any problem.	Yes
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and	SDG Target 8.5	Yes https://www.cn.undp.org/content/china/en/home.html	Project activity supports creation of long -term job opportunities during the operation of the project activity. Supports economic productivity through technology up	The project is expected to create 8 long-term job opportunities through the project lifetime	For 8.5.2: The project is expected to create 8 long-term jobs opportunities	The project created job opportunities for both construction and operation period. It created long term employment for 8 people	Monitoring parameter: number of employees. Check employment records	Project owner employs people according to the regulations. Social security payments are done regularly	Yes	Project owner employs people according to the regulations. Social security payments are done regularly.	Yes

productive employment and decent work for all			gradation and innovation through training of labour in intensive sector.			who are directly working at the site	or social security payment records of employees				
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation											
Goal 10. Reduce inequality within and among countries	N.A										
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable											

Goal 12. Ensure sustainable consumption and production patterns	N.A										
Goal 13. Take urgent action to combat climate change and its impacts	SDG Target 13.2	Yes https://www.cn.undp.org/content/china/en/home.html	Project activity generates renewable electricity and mitigates the CO_2 emissions which would have been generated from the fossil fuel-based power plants.	Project expects to supply 44,573MWh clean energy to power grid each year	Project provides clean energy avoiding 39,340 tCO_2 emission annually	Since the project uses solar energy, there is no GHG emissions related to the project activity. It avoids 39,340 tCO_2 emission annually	Calculate avoided GHG emissions periodically.	Project owner operates the plant since 2016 and complies with targeted SDGs so far.	Yes	Project owner operates the plant since 2016 and complies with targeted SDGs so far.	Yes
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	N.A										
Goal 15. Protect, restore and promote	N.A										

sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss											
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	N.A										

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	N.A										

SUMMARY	Targeted	Likely to be Achieved		
Total Number of SDGs	**3**	**3**		
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF	**silver**	**silver**		

DOCUMENT HISTORY

Version	Date	Comment
V 3.1	31/12/2020	▪ 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	▪ Revised version released on approval by the Steering Committee as per the GCC Program Process; ▪ Revised version contains the following changes: o Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC); o Considered and addressed comments raised by the Steering Committee: ➢ 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 CORSIA[7];
V 2.0	25/06/2019	▪ 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	▪ Initial version released for approval by the GCC Steering Committee under GCC Program Version 1

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

A member of

GOPD

المجلس العالمي للبصمة الكيرونية