JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Introduction of Solar PV System at Salt Factory
Reference number	KE002
Third-party entity (TPE)	Lloyd's Register Quality Assurance Limited (LRQA)
Project participant contracting the TPE	Pacific Consultants Co., Ltd.
Date of completion of this report	20/12/2017

A.2 Conclusion of validation

Overall validation opinion	☒ Positive ☐ Negative

A.3. Overview of final validation conclusion

Only when all of the checkboxes are checked, overall validation opinion is positive.

Item	Validation requirements	No CAR or CL remaining
Project design document form	The TPE determines whether the PDD was completed using the latest version of the PDD forms appropriate to the type of project and drafted in line with the Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan and Monitoring Report.	☒
Project description	The description of the proposed JCM project in the PDD is accurate, complete, and provides comprehension of the proposed JCM project.	☒
Application of approved JCM methodology (ies)	The project is eligible for applying applied methodology and that the applied version is valid at the time of submission of the proposed JCM project for validation.	☒
Emission sources and calculation of emission reductions	All relevant GHG emission sources covered in the methodology are addressed for the purpose of calculating project emissions and reference emissions for the proposed JCM project.	☒
	The values for project specific parameters to be fixed *ex ante* listed in the Monitoring Plan Sheet are appropriate, if applicable.	☒
Environmental impact assessment	The project participants conducted an environmental impact assessment, if required by the Republic of Kenya, in line with Kenyan procedures.	☒
Local stakeholder consultation	The project participants have completed a local stakeholder consultation process and that due steps were taken to engage stakeholders and solicit comments for the proposed project.	☒

Item	Validation requirements	No CAR or CL remaining
Monitoring	The description of the Monitoring Plan (Monitoring Plan Sheet and Monitoring Structure Sheet) is based on the approved methodology and/or Guidelines for Developing the Joint Crediting Mechanism (JCM) Project Design Document, Monitoring Plan, and Monitoring Report. The monitoring points for measurement are appropriate, as well as whether the types of equipment to be installed are appropriate if necessary.	☒
Public inputs	All inputs on the PDD of the proposed JCM project submitted in line with the Project Cycle Procedure are taken into due account by the project participants.	☒
Modalities of communications	The corporate identity of all project participants and a focal point, as well as the personal identities, including specimen signatures and employment status, of their authorized signatories are included in the MoC.	☒
	The MoC has been correctly completed and duly authorized.	☒
Avoidance of double registration	The proposed JCM project is not registered under other international climate mitigation mechanisms.	☒
Start of operation	The start of the operating date of the proposed JCM project does not predate January 1, 2013.	☒

Authorised signatory:	Mr. ☒ Ms. ☐
Last name: Chiba	First name: Michiaki
Title: Climate Change Manager - Asia & Pacific	
Specimen signature: [redacted]	Date: 20/12/2017

B. Validation team and other experts

	Name	Company	Function*	Scheme competence*	Technical competence*	On-site visit
Mr. ☒ Ms. ☐	Michiaki Chiba	LRQA Ltd.	Team Leader	☒	Technical competence authorised	☐
Mr. ☒ Ms. ☐	Stewart Niu	LRQA China	Internal Reviewer	☒	N/A	☐
Mr. ☐ Ms. ☐				☐		☐
Mr. ☐ Ms. ☐				☐		☐

Please specify the following for each item.

* *Function: Indicate the role of the personnel in the validation activity such as team leader, team member, technical expert, or internal reviewer.*

* *Scheme competence: Check the boxes if the personnel have sufficient knowledge on the JCM.*

* *Technical competence: Indicate if the personnel have sufficient technical competence related to the project under validation.*

C. Means of validation, findings, and conclusion based on reporting requirements

C.1. Project design document form

<Means of validation>

The PDD was checked and confirmed as complete against the JCM Guidelines for Developing PDD and MR No. JCM_KE_GL_PDD_MR_ver02.0. A valid form of the JCM PDD Form No. JCM_KE_F_PDD_ver02.0 is used for the PDD Version 01.0. The completeness was also checked for the revised version of the PDD Version 02.0 dated 26/10/2017.

Through the process of validation, CAR 1 was issued that the details of resolution are described below.

The details of the persons interviewed and the documents reviewed are shown in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

Grade / Ref: CAR 1

Nature of the issue raised: The PDD form was not indicated the date of completion in the table of revision history.

Nature of responses provided by the PPs: The PPs submitted a revised PDD having been filled the date for relevant versions.

Assessment of the responses: The validation team reviewed the revised PDD and confirmed the

table of revision history is completed with the date for relevant versions. The CAR was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the PDD Version 02.0 dated 26/10/2017 was completed using the valid form of the JCM PDD Form and in accordance with the JCM Guidelines for Developing PDD and MR.

C.2. Project description

<Means of validation>

The project is to introduce 991.1 kW grid connected solar photovoltaic (PV) system adjacent to a salt refinery of Krystalline Salt Limited in Gongoni, Malindi, Kilifi County, Kenya to reduce greenhouse gas (GHG) emissions from electricity generation. The electricity generated by the project PV system is self-consumed without being fed to the public electricity grid system and reduces GHG emissions from generation of grid electricity and electricity generated by the captive diesel generator in the absence of the JCM project. The project solar PV system employs Kyocera polycrystalline solar module KT265-6MCA.

The project is implemented by Krystalline Salt Limited from the Republic of Kenya and Pacific Consultants Co., Ltd. (PCKK) from Japan. The start date of project operation is on 14/12/2016. The expected operational lifetime of the project is for 10 years. The PPs referred to the Statutory useful life for the calculation of depreciation and amortization for machinery and equipment issued by Japan's Ministry of Finance for the basis of the expected operational lifetime of the project solar PV system indicated as for 10 years (facilities for food manufacturing). The project PV system applying the state-of-art design of the Japanese leading manufacturer will have a longer operational lifetime with sound operation and maintenance activities, but the PPs selected shorter lifetime specified by the applicable regulations. That is conservative and considered acceptable as it fulfils the duration of the crediting period.

The project receives financial support for JCM model projects from the Ministry of the Environment, Japan. The PP from Japan contributes in the project achieving GHG emission reductions by provision of capacity building on operation and monitoring with the Engineering, Procurement and Construction (EPC) company.

The validation team assessed the PDD and the supporting documents, interacted with the PPs to validate the requirements concerning accuracy and completeness of the project description.

It was determined that an on site visit was not required for the validation and it is justified considering the following conditions:

1) The project is implemented by the PPs led by Pacific Consultants Co., Ltd., applying the identical methodology and the project technology (solar PV system) as the JCM project ID# TH001,

2) The same validation team personnel engages in the validation as the JCM project ID# TH001,
3) The project PV system is physically identical as JCM projects ID# PW002 and PW003 that were observed by the same TPE team personnel, and
4) The validation requirements that are normally checked through an on site visit are substituted by the alternative means of assessment, i.e. by reviewing of documents, photographs, interviewing, and telephones/e-mails.
The validation elements for which an on site visit is deemed necessary as per the JCM Guidelines for Validation and Verification (VVG), including its para. 6.3. (Project description) and 6.12. (Start of operation) are addressed by the validation team based on the information made available to the team as above explained. The validation team assessed relevant documents based on the supporting information request and interviewed the PPs in Japan and by telephone and e-mails.
The details of the persons interviewed and documents reviewed are provided in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team assessed the project description provided in the PDD with the supporting documents to the requirements on the accuracy and completeness. The validation team confirmed that the proposed JCM project is described in accurate and complete manners in the PDD that is understandable the nature of the proposed project activity.

C.3. Application of approved methodology(ies)

<Means of validation>

The project applied the approved methodology JCM_KE_AM002_ver01.0 " Installation of Solar PV System, Version 1.0".
LRQA assessed if the selected methodology is applicable to the proposed project. The project applicability was checked against each eligibility criterion in the selected approved methodology. The steps taken to validate each eligibility criterion and the conclusions about its applicability to the proposed project are summarised as below.

Criterion 1: The project installs solar PV system(s).
Justification in the PDD: A solar PV system is installed. The solar PV module employed is Kyocera polycrystalline solar module KT265-6MCA. The inverter employed is SMA Tripower

25000TL.
Steps taken for assessment: Document review was conducted on the project documentation, technical specification, the test and commissioning reports.
Conclusion: Based on the validation processes taken, the validation team confirmed that the project installed a solar PV system and the criterion is met.

Criterion 2: The PV modules have obtained a certification of design qualifications (IEC 61215, IEC 61646 or IEC 62108) and safety qualification (IEC 61730-1 and IEC 61730-2).
Justification in the PDD: The installed PV module Kyocera polycrystalline solar module KT265-6MCA has obtained a certification of design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2).
Steps taken for assessment: Document review was conducted on the technical specification, certificates of design qualifications and safety qualification, the test and commissioning reports.
Conclusion: Based on the validation processes taken, the validation team confirmed that the PV modules of the project solar PV system have obtained the certificates in compliance with the international standards IEC61215, IEC61730-1 and IEC61730-2 as appropriate. The criterion was therefore fulfilled.

Criterion 3: The equipment to monitor the output power of the solar PV system and irradiance is installed at the project site.
Justification in the PDD: An electricity meter is installed to measure output power of the solar PV system. A pyranometer is installed at the site to measure irradiance.
Steps taken for assessment: Document review was conducted on the technical specification, the test and commissioning report.
Conclusion: Based on the validation processes taken, the validation team confirmed that the monitoring equipment has been installed for output power of the solar PV system as well as irradiance at the project site. Thus the criterion was confirmed as satisfied by the project.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the project applied the valid version of the approved methodology and the applicability was demonstrated to the eligibility criteria as appropriate.

C.4. Emission sources and calculation of emission reductions

<Means of validation>

The project supplies electricity generated by the solar PV system installed adjacent to a salt refinery for the self-consumption and displaces electricity purchased from the public power grid system and electricity generated by the captive diesel power generator. The source of GHG emissions is consumption of grid and/or captive electricity and CO2 emissions in the reference scenario are considered to determine the reference emissions (REs), while the project emissions (PEs) is assumed to be zero for the solar PV system in accordance with the applied methodology. The annual electricity generation of the project is estimated ex-ante at 1,486.65 MWh for the 1st year of the operation that is degraded by 0.7% p.a. based on the EPC company's proposal.

The default CO2 emission factor of 0.533 t-CO2/MWh is applied. The annual GHG emission reductions (ERs) are calculated using the estimated annual electricity generation of the project: ERs = REs – PEs = 1,486.65 MWh x 0.533 – 0 = 792 t-CO2e. The project plant was operated from 14/12/2016 and the ERs in the first year of operation (year 2016) was estimated at 792 x 18/365 days = 39 tCO2e. Respective ERs in the subsequent years of the crediting period are estimated ex-ante as below.

Year 2017: 1,476 MWh x 0.533 – 0 = 786 t-CO2e

Year 2018: 1,466 MWh x 0.533 – 0 = 781 t-CO2e

Year 2019: 1,456 MWh x 0.533 – 0 = 776 t-CO2e

Year 2020: 1,445 MWh x 0.533 – 0 = 770 t-CO2e

The validation team assessed the documented evidence and confirmed that all the relevant GHG emission sources covered in the applied methodology are addressed, and the steps taken and the equations applied to calculate REs for the proposed project comply with the requirements of the approved methodology.

Through the processes taken, CL 1 was raised as the resolution detailed below.

The details of the persons interviewed and the documents reviewed are shown in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

Grade / Ref: CL 1

Nature of the issue raised: The PPs were requested to clarify relevance of ex-ante estimation of GHG emission reductions. The estimated electricity generation by the solar PV system is 1,486.65 MWh for the 1st year that is reduced to 1,445 MWh in the 5th year according to the proposal from the EPC company.

Nature of responses provided by the PPs: The PPs revised the estimated GHG emission reductions applying the estimated electricity generation by the supplier.

Assessment of the responses: The validation team reviewed the revised PDD and monitoring spreadsheet and confirmed the ex-ante estimated GHG emission reductions are revised applying

the estimated electricity generation in each year of operation. The CL was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that:

- The methodology was applied correctly to calculate REs and PEs and no other significant emission source was identified that would be affected and reasonably attributed by implementation of the proposed project but not addressed by the applied methodology;
- The choice of whether an emission source or gas is to be included where the applied methodology allows was reasonably justified by the PPs;
- The Monitoring Plan Sheet (MPS) was not altered and the fields were filled in as required so that all estimates of the REs could be replicated using the data and parameter values provided in the PDD;
- The values for the project specific parameters fixed ex ante listed in the MPS were appropriate with all the data sources and assumptions and the calculations were correct to the proposed JCM project;
- All assumptions and data used by the PPs were listed in the PDD, including their references and sources; and
- All values used in the PDD were considered reasonable in the context of the proposed JCM project.

C.5. Environmental impact assessment

<Means of validation>

The proposed project is to install 991.1 kW solar PV system in the premise of the salt refinery. The environmental impact assessment has been completed and the license has been issued for the implementation of the project by National Environment Management Authority dated 20/09/2016 in accordance with the regulations of the host country. The validation team assessed by reviewing the official documents of the host country and confirmed that the environmental impact assessment has been conducted for implementation of the project in line with the requirements of the host country.

The details of the persons interviewed and documents reviewed are provided in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed by assessing the relevant official documents that the

environmental impact assessment has been conducted to meet the legal requirement of the host country and the PDD satisfies the requirements of the JCM.

C.6. Local stakeholder consultation

<Means of validation>

The local stakeholders were consulted as a part of the environmental impact assessment that included local schools, community organised group, religious institution and representatives of local communities. The PPs also held a meeting on 20/02/2017 with representatives of employees from each section of the salt refinery in Gongoni. The local stakeholders appreciate the project and provided positive comments. No negative issue was raised through the processes that require actions to be taken by the PPs.

The details of the persons interviewed and documents reviewed are provided in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the PPs have invited comments to the proposed project from the relevant local stakeholders, the summary of the comments received is provided in the PDD in a complete manner and the PPs have taken due account of all the comments received from the local stakeholders as the processes described in the PDD.

C.7. Monitoring

<Means of validation>

The MP consisting of the MPS and Monitoring Structure Sheet (MSS) is based on the approved methodology. Total quantity of the electricity generated in the project is the parameter to be monitored ex-post. The electricity generated by the project solar PV system is directly and continuously measured by electricity meter. The electricity meter is certified by a factory test to comply with Measuring Instruments (MID) Class C accuracy standards. Type approval and manufacturer's specification are provided and no replacement or calibration is required according to the applied methodology.

The monitored data by the electricity meter is cross checked and backed-up by the other data sources, i.e. fuel save controller and Sunny Explorer (data from Inverters). The PPs have prepared the Monitoring Manual for the detailed QA/QC procedures.

Irradiance is not a monitoring parameter required by the approved methodology. The weather data including irradiance is used to check the system performance.

The roles and responsibilities of the persons are described in the MSS in accordance with the requirements of the applied methodology. The reading results of electricity meters are monthly recorded, checked by the Supervisor and approved by the Project Manager.

The validation team confirmed that the MP complied with the requirements in the approved methodology and that the PPs will be able to apply the MP following the monitoring arrangements described in it. CL 2, CL 3, and CL 4 were issued that the details of resolution are as described below.

The details of the persons interviewed and the documents reviewed are shown in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

Grade / Ref: CL 2

Nature of the issue raised: The PPs were requested to clarify the certification of the electricity meter based on the factory test in compliance with MID Class C accuracy standards since the calibration report provided by the PPs does not have relevant information to identify the electricity meter tested. It was noted that the electricity meter was replaced in June 2017. The PPs were requested to provide the background information and the detailed information of the both electricity meters, the one originally installed and the one replaced.

Nature of responses provided by the PPs: The PPs clarified that the electricity meter originally installed had errors on display and was replaced on 07/06/2017. Report of energy meter replacement was provided to explain the background. The factory test certificate is for the meter replaced the original one.

Assessment of the responses: Report of energy meter replacement was provided, including details of meters originally installed and replaced and the reasons.

The originally installed electricity meter did not correctly display the measured data. The PPs tried to correct the errors on site but it was finally replaced by the supplier on 07/06/2017. The PPs provided certificate for the electricity meter replaced the erroneous one that met MID Class C accuracy standards as required by the applied methodology. The CL was closed.

Grade / Ref: CL 3

Nature of the issue raised: The PPs were requested to clarify how the PPs ensure that data monitored and required for verification and issuance be kept and archived electronically for two years after the final issuance of credits.

Nature of responses provided by the PPs: The PPs revised the Monitoring Structure Sheet to clarify responsibility for the requirements.

Assessment of the responses: The validation team reviewed the revised MSS and confirmed that the PPs have addressed the procedures to ensure relevant data for verification and issuance to be

kept and archived for two years after the final issuance of credits. The CL was closed.

Grade / Ref: CL 4
Nature of the issue raised: The PPs were requested to clarify responsibility and procedure for producing MR and managing monitoring points to maintain and control measuring instruments including calibration/regular inspection.
Nature of responses provided by the PPs: The PPs clarified the responsibility and procedures in the revised Monitoring Manual.
Assessment of the responses: The validation team reviewed the revised Monitoring Manual and confirmed the responsibility and procedures for producing MR as well as the managing the monitoring points are clarified as appropriate. The CL was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the MP was described in compliance with the requirements of the approved methodology and the Guidelines for developing PDD and MR, and the PPs have demonstrated feasibility of the monitoring structure and their ability to implement the MP.

C.8. Modalities of Communication

<Means of validation>

The MoC was submitted to LRQA in the form JCM_KE_F_MoC_ver01.0. The MoC nominates Pacific Consultants Co., Ltd. as the focal point and was signed by the authorized representatives of all the PPs with the contact details. The form used is the latest one as of the time of validation.

The validation team assessed the personal identities including specimen signatures and employment status of the authorized signatories through reviewing the written confirmation from the PP with whom LRQA contracted the validation, namely Pacific Consultants Co., Ltd. The written confirmation was issued by a Director of the company whose authorization was confirmed by the power of attorney, and it confirms that all corporate and personal details including specimen signatures are valid and accurate as requested in the JCM Guidelines for Validation and Verification. The validation team also confirmed through reviewing the corporate information of the PPs and by meeting the persons representing the PPs that the information provided in the MoC is correct.

CAR 2 was issued that the details of resolution are as described below.

The details of the persons interviewed and the documents reviewed are shown in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

Grade / Ref: CAR 2

Nature of the issue raised: Evidence was not presented to enable confirmation of authorization of signatories for the MoC.

Nature of responses provided by the PPs: The PPs provided the written confirmation for the MoC for review by the validation team.

Assessment of the responses:

The validation team assessed the personal identities of the authorized signatories of the MoC through reviewing the written confirmation from the PP with whom LRQA contracted the validation, namely Pacific Consultants Co., Ltd. The written confirmation was issued by a Director of the company whose authorization was confirmed by the power of attorney, and it confirms that all corporate and personal details including specimen signatures are valid and accurate as requested in the JCM Guidelines for Validation and Verification. The validation team also confirmed through reviewing the corporate information of the PPs and by meeting the persons representing the PPs that the information provided in the MoC is correct. The CAR was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the MoC was completed using the latest form after assessment conducted on relevance of the MoC in compliance with the requirements of the JCM Guidelines.

C.9. Avoidance of double registration

<Means of validation>

The validation team assessed and confirmed relevance of the written confirmation in the MoC from the PPs that the proposed JCM project was not registered under the other international climate mitigation mechanisms.

The team in addition to the interviews with the PPs checked publicly accessible information of Clean Development Mechanism (CDM), Joint Implementation (JI), Verified Carbon Standard (VCS) and Gold Standard (GS) and found no identical project as the proposed JCM project in terms of the name of entities, applied technology, scale and the location. The result of researches confirmed that the proposed project was not registered under the other international climate mitigation mechanisms than JCM and it will not result in a double counting of GHG emission reductions.

The details of the persons interviewed and the documents reviewed are shown in the Section E of this report.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirement of the section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the proposed JCM project was not registered under the other international climate mitigation mechanisms.

C.10. Start of operation

<Means of validation>

The start date for the operation of the proposed JCM project is indicated as 14/12/2016 in the PDD. The commissioning test of the project solar PV system was completed on the same date. The validation team confirmed correctness/relevance of the information by reviewing the supporting evidence, including but not limited to assessing of the contracts and commissioning report, and that the date is not before 01/01/2013 as required to be eligible as a JCM project.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

No issue was raised to the requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the start date of operation of the proposed JCM project is 14/12/2016 and not before 01/01/2013 as required to be eligible as a JCM project.

C.11. Other issues

<Means of validation>

No issue was identified as relevant element not covered above.

<Findings>

Please state if CARs, CLs, or FARs are raised, and how they are resolved.

Not applicable

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

Not applicable

D. Information on public inputs

D.1. Summary of public inputs

In line with the JCM Project Cycle Procedure, the PDD is to be made publicly available for 30 days to invite public comments. The PDD was made publicly available in line with the requirements of the procedure for the period of 04/10/2017 to 02/11/2017 as per

https://www.jcm.go.jp/ke-jp/projects/31.

D.2. Summary of how inputs received have been taken into account by the project participants

Comments were received during the above period to receive public inputs. Name: LUKE KAPCHANGA E-mail: wanjalaluke1@gmail.com Submitted inputs: 1) Make clear emissions from grid electricity using fossil fuels being replaced. 2) Is the electricity generated under the project supplied to the community, if not how is the community going to benefit from the project? 3) How is the cost of production going to be affected? 4) Will the new input of power as a source of production affect the profit? 5) What are the role of civil society in means of verification? 6) Was the community made aware of pollutants and polluted material related to the project with adequate mitigation measures in place? 7) Are the baseline indicators established during scoping stages, open up to the public to be used as reference for assessment? Although the submitter of the inputs did not provide contact details as requested by para. 37 of JCM-PCP, The validation team could identify the individual by the name and the e-mail address. Therefore the validation team confirmed that there was no doubt on the authenticity and relevance. CL 5 was issued that the details of resolution are as described below. Grade / Ref: CL 5 Nature of the issue raised: The PPs were requested to clarify how the PPs have taken due account of the public inputs. The PPs provided explanation on how the PPs have taken account the points of the public inputs. The Validation Team reviewed all the inputs submitted on the PDD, interviewed the PPs and confirmed that the PPs have taken due account of the public inputs as required in JCM Guidelines for Validation and Verification as below. Comment 1.: Make clear emissions from grid electricity using fossil fuels being replaced. PP response: The methodology itself has been developed based on displacement of grid

electricity using fossil fuels and the point has been taken account.
Validation opinion: The project applies the default emission factor of the approved methodology for calculation of the emission reductions that is based on the GHG emissions from the electricity grid system where fossil fuels are used for power generation. The comment has been addressed.

Comment 2.: Is the electricity generated under the project supplied to the community, if not how is the community going to benefit from the project?
PP response: The project does not aim at electrification of community and the comment does not match with the project.
Validation opinion: The project does not aim at electrification of local community but indirect benefits are brought by the project introducing renewable energy to displace the grid electricity generated consuming fossil fuels. The comment has been addressed.

Comment 3.: How is the cost of production going to be affected?
PP response: The factory produces salt and the operational cost of salt factory will be reduced by introduction of the solar power generation system while it needs the investment cost.
Validation opinion: The project will improve long term financial return of the salt factory by saving energy costs. The comment has been addressed.

Comment 4.: Will the new input of power as a source of production affect the profit?
PP response: Profit of the salt factory will increase for a long term by reduced operational cost.
Validation opinion: The project will improve long term financial return of the salt factory by saving energy costs. The comment has been addressed.

Comment 5.: What are the role of civil society in means of verification?
PP response: The question is to the procedure of verification and the PP is not in a position to answer.
Validation opinion: The stakeholder consultation process is open to public participation under JCM scheme. The comment has been addressed.

Comment 6.: Was the community made aware of pollutants and polluted material related to the project with adequate mitigation measures in place?
PP response: The project does not emit pollutants and polluted material.
Validation opinion: The project employs clean power generation from solar energy. The environmental impacts of the project have been assessed in accordance with the regulations of the host country that include treatment of wastes at the disposal time as well as the public

hearing process with the local communities. The comment has been addressed.

Comment 7.: Are the baseline indicators established during scoping stages, open up to the public to be used as reference for assessment?
PP response: The question is not clearly understood but considered not related with registration requirements of JCM project.
Validation opinion: The parameters applied for the project are in accordance with the approved methodology. The methodology has been approved by the JC after the open consultation process participated by the public. The comment has been addressed.

The CL was closed.

The Validation Team reviewed all the inputs submitted on the PDD, interviewed the PPs and confirmed that the PPs have taken due account of the public inputs as required in JCM Guidelines for Validation and Verification.

E. List of interviewees and documents received

E.1. List of interviewees

Pacific Consultants Co., Ltd.
Hirofumi Ishizaka, Senior Researcher, PC-Institute for Global Environment Research, International Division
Noriko Ishibashi, Researcher, PC-Institute for Global Environment Research, International Division

E.2. List of documents received

Category A documents (documents prepared by the PP)
- PDD Version 01.0 dated 02/10/2017 with the Monitoring Spreadsheet
- Revised PDD Version 02.0 dated 26/10/2017 with the Monitoring Spreadsheet
- MoC dated 29/09/2017
- Technical specification, Kyocera Polycrystalline Solar Modules KT-Series: KT265-6MCA
- List of main equipment
- Implementation report for JCM model project

- Photographs of installation
- Corporate profile: Krystalline Salt Limited
- Solar PV Proposal Version 8.0, NVI Energy, 29/01/2016
- Construction progress report dated 10/03/2017
- Commissioning checklist 1041-KAY-TEC-CCL-1.0 dated 14/12/2016, NVI Energy Kenya Ltd.
- FSC 2.0 Commissioning Report, SMA
- Annexes 1 and 2 to the Act of Japan's Ministry of Finance concerning Statutory useful life for the calculation of depreciation and amortization
- Monitoring Manual Ver.1.0 dated 23/10/2017 and Ver.2.2 dated 20/11/2017, Pacific Consultants Co., Ltd.
- Contract (Inst. Agreement)
- Certificate for IEC 61215:2005, TUV Rheinland, 25/05/2015
- Certificate for IEC 61730-1:2004 and IEC 61730-2:2004, TUV Rheinland, 25/05/2015
- Electronic polyphaser meter alpha A1500, Elster Solutions Gmbh
- The SMP10 Pyranometer, Kipp & Zonen B.V.
- Summary report of construction work for JCM model project
- Drawing of Power house
- Site plan
- kWh meter recording data October 2017 Kaysalt
- Kenya National Distribution Code, May 2016
- Photograph of power meter
- Calibration certificate, Elster Solutions GmbH
- Type-approval Certificate under German Law, Physical-technical Federal Institute, 14/02/2008
- Environmental Management and Coordination Act (No. 8 of 1999) Environmental Impact Assessment Guidelines and Administrative Procedures, National Environmental Management Authority, Republic of Kenya, November 2002
- Environmental (Impact Assessment and Audit) Regulations, 2003
- Environmental Impact Assessment Project Report 2016
- Environmental Impact Assessment License No. NEMA/EIA/PSL/3818, National Environment Management Authority (NEMA), 20/09/2016
- Stakeholder consultation for JCM model project, Pacific Consultants Co., Ltd., February 2017 Notes of Stakeholder consultation on JCM project dated 20/02/2017
- Written confirmation for the MoC dated 16/10/2017
- Power of Attorney dated 16/10/2017
- Electricity generation records by Fuel Save Controller from December 2016 to June 2017
- SMA Fuel Save Controller, SMA Solar Technology

- Energy meter replacement report, 1041-KAY-TEC-Energy Meter-1.0
- Records of on site training on 13 and 14/12/2016
- Outline of the installation
- Explanation on issues of the electricity meter dated 31/10/2017
- Specification of Grid Measurement Module GM260, Bachmann Electronic GmgH
- Type Approval Certificate for Generator Control and Protection Units Grid Modules GM260 dated 15/05/2017
- Responses to the public inputs dated 21/11/2017

Category B documents (other documents referenced)
- JCM_KE_AM002_ver01.0 Installation of Solar PV System Version 1.0
- Additional Information to the Proposed Methodology “Installation of Solar PV System”
- JCM Project Cycle Procedure JCM_KE_PCP_ver03.0
- JCM Guidelines for Validation and Verification JCM_KE_GL_VV_ver01.0
- JCM Guidelines for Developing PDD and MR JCM_KE_GL_PDD_MR_ver02.0
- JCM Glossary of Terms JCM_KE_Glossary_ver01.0
- JCM PDD Form JCM_KE_F_PDD_ver02.0
- JCM MoC Statement Form JCM_KE_F_MoC_ver01.0
- JCM Validation Report Form JCM_KE_F_Val_Rep_ver01.0
- Proposed and registered projects under CDM, VCS, Gold Standard, and the other international schemes
- Measuring Instruments Directive (MID) 2014/32/EU
- CSN EN 50470-1, Electricity metering equipment (a.c.) – Part 1: General requirements, tests and test conditions
- CSN EN 50470-3, Electricity metering equipment (a.c.) – Part 3: Particular requirements – Static meters for active energy (class indexes A, B and C)
- IEC 62053-22:2003, Electricity metering equipment (ac) - Particular requirements. Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)
- Technical Information: Functional Description, SMA Fuel Save Controller, PV Diesel Hybrid System, SMA Solar Technology AG
- JCM_KE_AM001_ver01.0 Electrification of communities using Micro hydropower generation, version 1.0
- Approved Small Scale CDM Methodology AMS I.D. Version 18.0 Grid connected renewable electricity generation
- Approved CDM Methodological Tool to calculate the Emission Factor for an electricity system
- PDD of the proposed JCM project ref No. KE001 Electrification of communities using Ultra

Low Head Micro Hydro Power Generation system - PDD of the registered CDM project ref No. 9960 5.1MW Grid Connected Wind Electricity Generation at Ngong Hills, Kenya

Annex Certificates or curricula vitae of TPE's validation team members, technical experts and internal technical reviewers

Please attach certificates or curricula vitae of TPE's validation team members, technical experts and internal technical reviewers.

Certificate of Appointment is attached to this report.

Joint Crediting Mechanism Certificate of Appointment

Title of Project: Validation for Introduction of Solar PV System at Salt Factory

We hereby certify that the following personnel have engaged in the validation process that has fully satisfied the competence requirements of the validation of the JCM project.

Name of Person	Assigned Roles
Michiaki Chiba	Team Leader
Stewart Niu	Technical Reviewer

Signed by

[redacted]

Michiaki Chiba
Climate Change Manager – Asia & Pacific
02/10/2017