JCM Validation Report Form

A. Summary of validation

A.1. General Information

Title of the project	Solar Power on Rooftop of School Building Project
Reference number	MV001
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	13/06/2018

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 Maldives, in line with Maldivian 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: 13/06/2018

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 Project Design Document (PDD) and Monitoring Report (MR) No. JCM_MV_GL_PDD_MR_ver01.0. A valid form of the JCM PDD Form as of the time of commencement of the public comment period No. JCM_MV_F_PDD_ver01.0 was used for the PDD Version 01.0.

The Joint Committee (JC) of the Joint Crediting Mechanism between Maldives and Japan at its third meeting dated 19/03/2018 approved the revised versions JCM_MV_GL_PDD_MR_ver02.0 and JCM_MV_F_PDD_ver02.0, but use of the previous version is allowed for the PDD published for inviting public inputs on 28/02/2018 according to the JCM Project Cycle Procedure.

CAR 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: CAR 1

Nature of the issue raised: The date of PDD Version 01.0 was indicated as XX/XX/XXXX.
Nature of responses provided by the PPs: The PPs corrected the date of PDD.
Assessment of the responses: The validation team confirmed that the date of PDD Version 01.0 is corrected to 26/02/2018.
The CAR was closed.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that the PDD 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 186.72 kW grid connected solar PV system on the rooftop of school buildings owned by Villa Educational Services Private Limited in Male City, Maldives.
The power generated by the project solar PV system is firstly self-consumed. When there is surplus power, it is exported to the grid utilising the net-metering scheme. GHG emissions are reduced by displacement of electricity generation in the grid using fossil fuels.
The project is implemented by Villa Educational Services Private Ltd. and Pacific Consultants Co., Ltd.
The start date of project operation is on 02/09/2017 and 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 power system indicated as for 17 years (the other facilities mainly made of metal), while the period of depreciation applied by Villa Educational Services Private Limited is for 25 years based on the expected technical lifetime of solar power system. The project solar power system will have a longer operational lifetime with sound operation and maintenance activities, but the PPs selected shorter lifetime 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 transfer of technology by capacity building on operation and monitoring in conjunction with the EPC company.
The validation team assessed the PDD and the supporting documents, interviewed the PPs to validate the requirements concerning accuracy and completeness of the project description.
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 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 in the PDD is described in accurate and complete manners 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_MV_AM001_ver01.0 "Displacement of Grid and Captive Genset Electricity by Solar PV System" Ver 01.0.

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 Trinasolar multicrystalline solar module TSM-PD05. The inverter employed is SMA Sunny Tripower 10000TL, 15000TL, and 20000TL.

Steps taken for assessment: Document review was conducted on the project documentation, technical specification, the project completion report, and the on-site visit and interviews were conducted at the project site.

Conclusion: Based on the validation processes taken, the validation team confirmed that the project installed rooftop solar PV system at the school buildings of Villa College Ql Campus and the criterion is met.

Criterion 2: The solar PV system is connected to the internal power grid of the project site and/or to the grid for displacing grid electricity and/or captive electricity at the project site.

Justification in the PDD: The solar PV system is connected to the internal power grid of the project site and to the grid for displacing grid electricity.

Steps taken for assessment: Document review was conducted on the electricity diagram, the project completion report, and the on-site visit and interviews were conducted at the project site.

Conclusion: Based on the validation processes taken, the validation team confirmed that the project solar PV system is connected to the internal electricity supply system of the Villa

College Ql Campus. The electricity supply system of Villa College Ql Campus is connected to the public power grid system and no captive electricity is used in the project site. The project was confirmed to displace consumption of grid electricity. The criterion is met by the proposed project.

Criterion 3: 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), and have fulfilled the requirements of IEC 61701.
Justification in the PDD: The installed PV module Trinasolar multicrystalline solar module TSM-PD05 has obtained a certification of design qualifications (IEC 61215) and safety qualification (IEC 61730-1 and IEC 61730-2). It has fulfilled the requirements of IEC 61701.
Steps taken for assessment: Document review was conducted on the technical specification, certificates of design qualifications and safety qualification, the project completion report, and the on-site visit and interviews were conducted at the project site.
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, IEC61730-2 and IEC61701. The criterion was therefore satisfied.

Criterion 4: The equipment to monitor output power of the solar PV system(s) and irradiance is installed at the project site.
Justification in the PDD: An electricity meter is installed to measure the 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 project completion report, and the on-site visit and interviews were conducted at the project site.
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.

C.4. Emission sources and calculation of emission reductions

<Means of validation>

The project supplies electricity generated by 186.72 kW solar PV system installed on the rooftop of school buildings and displaces electricity generation in the public power grid system.

The source of GHG emissions is consumption of grid electricity and CO2 emissions in the reference scenario are considered to determine the reference emissions (REs), while the project emissions (PEs) are 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 293.05 MWh. 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 = 293.05 MWh x 0.533 – 0 = 156 t-CO2e. The project started operation with the first 155.94 kW from 02/09/2017 and with the full capacity from 29/09/2017, and the ERs in the first year is estimated at 49 tCO2e.

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.

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 requirements of this section.

<Conclusion based on reporting requirements>

Please state conclusion based on reporting requirements.

The validation team confirmed that:

- The methodology was applied correctly to calculate PEs and REs 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 186.72 kW solar PV system on the rooftop of the existing school buildings and an environmental impact assessment is not required by laws of the host country. The validation team assessed the applicable legal requirements in the host country using its local sources/expertise and confirmed that an environmental impact assessment is not required to be conducted for implementation of the project.

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 documents and using the local sources/expertise that the project does not need an environmental impacts assessment to be 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 PPs identified the government of the host country, staff of Villa College as the main local stakeholder and held a consultation meeting. Representatives of the local stakeholder attended the meeting provided no negative comment through the process.

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. The electricity generated by the project solar PV system is directly and continuously measured. The reading is taken by an electricity meter. The electricity meter is designed to comply with requirements of IEC 62053-21 and the accuracy class is 1. 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 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 1 and CAR 2 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 1 Nature of the issue raised: Metering Code of Singapore is referenced for calibration of the measuring equipment but monitoring spreadsheet of the approved methodology requires calibration in line with international/national standards or manufacturer's specification. Application of Metering Scheme Regulation of the host country provided as reference document should also be confirmed. Nature of responses provided by the PPs: The PPs clarified that the electricity meter is calibrated to fulfil the requirements of the international standard IEC 62053-21, but neither international/national standards nor manufacturer's specification indicates a calibration frequency including the Metering Scheme Regulation of the host country, therefore the PPs referred to the Metering Code of Singapore to determine the calibration frequency following a good practice applied under JCM scheme that is a national regulation of a country where the meter is mainly used. Assessment of the responses: The validation team considered clarification by the PPs and confirmed that the PPs referred to a national regulation of a country where the meter is mainly used to determine the calibration frequency following a good practice applied under JCM

scheme to fulfil the requirements of the approved methodology for calibration.
The CL was closed.

Grade / Ref: CAR 2
Nature of the issue raised: A person(s) responsible for managing monitoring points for maintaining and control measuring instruments including calibration/regular inspection as applicable was not specified.
Nature of responses provided by the PPs: The PPs revised the monitoring manual and clarified appointment to the Meter Reader for maintaining the electricity meter.
Assessment of the responses: The validation team reviewed the revised monitoring manual and confirmed appointment of responsible person for maintaining the measuring instruments.
The CAR 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_MV_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.
CAR 3 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 3
Nature of the issue raised: Relevant evidence to confirm information in the MoC was not provided.
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 requirements of this 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 in the PDD as 02/09/2017.

The validation team confirmed correctness/relevance of the information by reviewing the supporting evidence, including but not limited to assessing of the contracts and project completion 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 02/09/2017 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 28/02/2018 to 29/03/2018 as per https://www.jcm.go.jp/mv-jp/projects/47.

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

No comment was received during the above period to receive public inputs.

Thus no action was required to be taken by the PPs to satisfy the JCM requirement.

E. List of interviewees and documents received

E.1. List of interviewees

Villa College / Villa Educational Services Private Ltd.
Ali Najeeb, Vice Rector
Abdul Munnim Mohamed Manik, Deputy Vice Rector, Administration and Finance (Project Manager)
Mariyam Nazviya, Director, Policy and International Relations
Abdulla Naseer, Manager, Physical Facilities Unit
Ibrahim Waheed, Manager, Physical Facilities Unit

Pacific Consultants Co., Ltd.
Yoshihiro Mizuno, General Manager, International Division, Global Environment Department
Noriko Ishibashi, Researcher, International Division, Global Environment Department

Ministry of Environment and Energy
Zammath Khaleel, Assistant Director, Climate Change Department

Avi Technologies Pvt. Ltd.
Ismail Athif, Managing Director
Hassan Yasir, Director of Operations
Mohamed Yamin, Sales

E.2. List of documents received

Category A documents (documents prepared by the PP)
- PDD Version 01.0 dated 26/02/2018 with the monitoring spreadsheet
- MoC dated 26/02/2018
- Technical specification of the Honey Framed 60-cell Module specification, Trina Solar Limited
- Photographs of project construction
- Profile of Villa College
- Feasibility study report of JCM project “Solar power and battery operational system using

energy management system (EMS)"
- Construction progress report
- Project Completion Report for Supply and Installation of 186.72 kW Solar PV System at Villa College QI Campus, Male' Maldives, Avi Technologies Pvt Ltd.
- Acquired properties management register, list of statutory useful life, table for useful life of machinery and equipment
- Monitoring Manual Ver. 1.0 and Ver. 2.0, Pacific Consultants Co., Ltd.
- Contract of Work dated 20/04/2017
- Single Line Diagram Roof A, B, C, D, E1, E2, F, G1, G2, H, I1, I2, Grid Connection, Existing LV Main Distribution Panel
- Certificate of IEC 61215:2005, TUV Rheinland LGA Products GmbH dated 02/12/2013
- Certificate of IEC 61730-1:2004 and IEC 61730-2:2004, TUV Rheinland LGA Products GmbH dated 02/12/2013
- Silicon-cell Pyranometers specification, Apogee Instruments
- Estimated power generation and CO2 emission reductions
- Metering Scheme Regulation, Maldives Energy Authority
- Certificate of Type Test of Energy Meters for EDMI Mk6N, KEMA T&D Testing Services dated 02/10/2010 (Net meter)
- Mk6N Advanced Three Phase Electronic Revenue Meter Specifications, EDMI Limited (net meter)
- Photograph of electricity meter
- Regulation on the Preparation of Environmental Impact Assessment Report 2012 No. 2012/R-27, Ministry of Housing and Environment (unofficial translation)
- Notes for Stakeholder Consultation Meeting dated 27/09/2017
- Log book
- Certificate for IEC61701:2011
- Location plan
- EC Type Examination Certificate for EDMI Mk10A dated 23/04/2015 (JCM project monitoring point)
- Evidence for authorization of signatories for the MoC

Category B documents (other documents referenced)
- JCM_MV_AM001_ver01.0 Displacement of Grid and Captive Genset Electricity by Solar PV System, Ver 01.0
- Additional Information to the Proposed Methodology Displacement of Grid and Captive Genset Electricity by Solar PV System
- JCM Project Cycle Procedure JCM_MV_PCP_ver02.0 and JCM_MV_PCP_ver03.0

- JCM Guidelines for Validation and Verification JCM_MV_GL_VV_ver01.0
- JCM Guidelines for Developing PDD and MR JCM_MV_GL_PDD_MR_ver01.0 and JCM_MV_GL_PDD_MR_ver02.0
- JCM Glossary of Terms JCM_MV_Glossary_ver01.0
- JCM PDD Form JCM_MV_F_PDD_ver01.0
- JCM MoC Statement Form JCM_MV_F_MoC_ver01.0
- JCM Validation Report Form JCM_MV_F_Val_Rep_ver01.0
- 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
- Proposed and registered projects under CDM, VCS, Gold Standard, and the other international schemes
- IEC 62053-21, Electricity metering equipment (a,c,) - Particular requirements - Part 21: Static meters for active energy (classes 1 and 2)
- Metering Code, Energy Market Authority of Singapore, January 2014

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 Solar Power on Rooftop of School Building Project

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
07/02/2018