




**Validation report form for
CDM programme of activities
(Version 03.0)**

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

BASIC INFORMATION

Title of the programme of activities (PoA)	The Solar United Network South East Asia Pacific (SUNSEAP) Program
Version number of the validation report	Version 0 4 ³
Completion date of the validation report	0716/1206 /2020
Version number of PoA-DD to which this validation report applies	Version 0 4 ³ , dated 079/1206 /2020
Date when PoA-DD was uploaded for global stakeholder consultation	14/02/2019
Coordinating/managing entity (CME)	Climate Resources Exchange International Pte Ltd
Host Parties	Vietnam
Applied methodologies and standardized baselines	AMS-I.D.: Grid connected renewable electricity generation, Version 18.0 AMS-I.F.: Renewable electricity generation for captive use and mini-grid, Version 3.0 ACM0002: Grid-connected electricity generation from renewable sources, Version 20.0 Standardized baseline is not applicable for PoA
Mandatory sectoral scopes	1: Energy industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	Not applicable
Name and UNFCCC reference number of the DOE	E-0052. Carbon Check (India) Private Ltd.
Name, position and signature of the approver of the validation report	Amit Anand, CEO 

SECTION A.Executive summary

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Purpose and general description

Climate Resources Exchange International Pte Ltd has appointed the DOE, Carbon Check (India) Private Ltd. to perform an independent validation of the PoA “The Solar United Network South East Asia Pacific (SUNSEAP) Program” in Vietnam (hereafter referred to as “PoA”). This report summarizes the findings of validation of the project, performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. The term “UNFCCC criteria” refers to Article 12 of the Kyoto Protocol, the CDM modalities and procedures or the simplified modalities and procedures for small-scale CDM project activities (as applicable) and the subsequent decisions by the CDM Executive Board. This report contains the findings and resolutions from the validation and a validation opinion.

The proposed PoA will involve implementation of renewable energy power plants supplying electricity to grid or renewable energy generation that supply electricity to users for captive use/mini grid in Vietnam. All CPAs within this PoA will consist of a single renewable technology (solar energy technologies) and use any one of the three methodologies; AMS I.D, Version 18 or AMS I.F, Version 03 or ACM0002, Version 20.0 /B02/ but never a combination of these applied methodologies.

The electricity generated by renewable technology installed as part of the PoA will be utilized in following manner:

1. Supplied to national grid of host countries (AMS-I.D or ACM0002); or
2. Supplied to an identified consumer facility via national grid through a contractual wheeling agreement (AMS-I.D or ACM0002); or
3. Supplied to a customer to displace grid import or users for captive use displacing fossil fuel based power generation (AMS-I.F); or
4. Supplied to mini-grid systems and thereby displacing fossil fuel based power generation (AMS-I.F)

The PoA will the reduce amount of carbon dioxide emissions in the atmosphere that was occurring prior to the usage of renewable energy technologies. The PoA results in reductions of CO2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the PoA is not a likely baseline scenario. Emission reductions attributable to the PoA are hence additional to any that would occur in the absence of the PoA in accordance with the UNFCCC CDM requirements for additionality.

The purpose of validation is to have a thorough and independent assessment of the proposed PoA against the applicable CDM requirements, in particular, the project's baseline, monitoring plan and the PoA's compliance with relevant UNFCCC and host Party criteria. These are validated to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation requirement for all CDM projects and programme of activities is necessary to provide assurance to stakeholders of the quality of the PoA and its intended generation of certified emission reductions (CERs).

Location

The PoA will be implemented within the geographical boundary of Vietnam.

Scope of the validation

The validation scope is defined as the independent and objective review of the programme of activities design document (PoA-DD /2/). The PoA-DD /2/ is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board, including the approved baseline and monitoring methodologies. The validation team has, based on the recommendations in the CDM PoA Validation and Verification Standard, Version 02.0 /B01-a/ employed a rule-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the project participants/coordinating managing entity. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the program design.

While carrying out the validation, CCIPL determines if the PoA complies with the requirements of the paragraph 37 of the CDM Modalities & Procedures, the applicability conditions of the selected methodologies /B02/, guidance issued by the Board and also assess the claims and assumptions made in the PoA-DD /2/ without limitation on the information provided by the project participants.

Validation Process

The validation consists of the following four phases:

- I. A desk review of the program design documents
 - A review of the data and information;
 - Cross checks between information provided in the PoA-DD /01//02/ and information from sources with all necessary means without limitations to the information provided by the project proponent;
- II. Follow-up interviews with project stakeholders
 - Interviews with relevant stakeholders in host country with personnel having knowledge with the project development via telephone, email, etc.;
 - Cross checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent;
- III. Reference to available information relating to projects or technologies similar projects under validation and review based on the approved methodologies /B02/ being applied of the appropriateness of formulae and accuracy of calculations.
- IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The report is based on the assessment of the PoA-DD /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews and stakeholder interviews, review of the applicable/applied methodologies /B02/ and their underlying formulae and calculations.

This report contains the findings and resolutions from the validation and a validation opinion on the proposed PoA thus confirming the program design in the documents is sound and reasonable and meets the stated requirements and identified criteria.

Conclusion

The selected baseline and monitoring methodologies (AMS-I.D. Grid connected renewable electricity generation – Version 18.0; AMS-I.F. Renewable electricity generation for captive use and mini-grid – Version 3.0 and ACM0002 Grid-connected electricity generation from renewable sources – Version 20.0 /B02/ are applicable to the project and correctly applied. Carbon Check (India) Private Ltd. therefore recommends the project to the CDM Executive Board for registration.

Carbon Check (India) Private Ltd. concludes the validation with a positive opinion that the CDM PoA "The Solar United Network South East Asia Pacific (SUNSEAP) Program" in Vietnam, as described in the PoA-DD (Version 043, dated 0709/1206/2020) /2/, meets all applicable CDM requirements, including those specified in the CDM Project Standard /B01-b/, relevant methodologies, tools and guidelines and article 12 of the Kyoto Protocol, paragraph 37 of CDM modalities and procedures, subsequent decisions by the COP/MOP and CDM Executive Board.

SECTION B.Validation team, technical reviewer and approver

B.1.Validation team members

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader/ Technical Expert	IR	Singh	Vikash Kumar	CC IPL	X	X	X	X
2.	Validator/ Local Expert	EI	Nguyen	Hong Ngoc Trang	CC IPL	X	X	X	X

B.2.Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Agarwalla	Sanjay Kumar	CC IPL
2	Approver	IR	Anand	Amit	CC IPL

SECTION C.Means of validation

C.1.Desk/document review

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List of all documents reviewed or referenced during the validation is provided in Appendix-3.

C.2.On-site inspection

Duration of on-site inspection: 17/05/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Project site inspection: including CME/PPs Office, project site of specific CPAs, the central control room and data acquisition and processing system Monitoring device and installed position Site visit to the substation where gateway meter and backup meter (if applicable) are installed.	SUNSEAP project's office in Ninh Thuan Province	17/05/2019	Vikash Kumar Singh Nguyen H.N Trang
2	Interview with the CME/PP/Implementor, local stakeholder, government sector etc.	SUNSEAP project's office in Ninh Thuan Province	17/05/2019	Vikash Kumar Singh Nguyen H.N Trang
3	Document Review - Reference to available information	SUNSEAP project's office in	17/05/2019	Vikash Kumar Singh Nguyen H.N Trang

	relating to projects or technologies similar to the proposed CDM project activity under validation; - Review, based on the selected methodology and, where applicable, the selected standardized baseline, of the appropriateness of formulae and accuracy of calculations;	Ninh Thuan Province		
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C.3.Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Kesava	Vinod	Climate Resources Exchange International Pte Ltd	22/04/2019 (via Skype) 17/05/2019	<ul style="list-style-type: none"> •Project Design •Proposed Technology to be used •Environmental Management Plan/ EIA •Local stakeholders meeting process •Management structure with roles and responsibilities •Monitoring Plan and process to be adopted •Socio-economic Impacts of the project activity •Sustainability aspects of the project •Baseline Scenarios and alternatives •Emission Reduction 	Vikash Kumar Singh Nguyen H.N Trang
2	Sim	Cherie	Climate Resources Exchange International Pte Ltd	22/04/2019 (via Skype) 17/05/2019	<ul style="list-style-type: none"> •Project Design •Management structure with Roles and Responsibilities •Sustainability aspects of the project •Proposed Technology to be used 	Vikash Kumar Singh Nguyen H.N Trang
3	Nguyen	Van Hoa	CMX RE Sunseap Vietnam Solar Power Joint Stock Company	17/05/2019	<ul style="list-style-type: none"> •Project background information and CDM consideration. •Project technology, project feasibility, designing, operational life time, maintenance and operation capability. 	Vikash Kumar Singh Nguyen H.N Trang
4	Le	Xuan Thuy	CMX RE Sunseap Vietnam Solar Power Joint Stock Company	17/05/2019	<ul style="list-style-type: none"> •Project monitoring and management plan. •Stakeholder consultation process. •Project approval status (incl. EIA approval, CDM project approval status) •Solar power development in the area •Regional/National government policies/sectoral policies related to solar power projects •Current status of CPAs •Project activity starting date •Power connecting system and connecting measures •PPA •Social and environmental impact of the project •Additional comments 	Vikash Kumar Singh Nguyen H.N Trang
5	Le	Van Ha	My Son village, Ninh Thuan People's	17/05/2019	<ul style="list-style-type: none"> •Energy demand and status in the region •Regional/National government policies/sectoral policies/tariff related 	Vikash Kumar Singh Nguyen

			committee		to Renewable Energy	H.N Trang
6	Nguyen	Van Thanh	Head of My Son village, Ninh Thuan province	17/05/2019	<ul style="list-style-type: none"> •Stakeholder consultation process •Environment impact during the construction period and operation period •Comparison about local environment and sustainable development for before and after the operation of specific CPA •Comments to specific CPA 	Vikash Kumar Singh Nguyen H.N Trang

C.4.Sampling approach

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<input checked="" type="checkbox"/>	No sampling approach has been used by the Validation team to validate any parameters
<input type="checkbox"/>	A sampling approach has been applied by the Validation team for the following parameter(s):

Parameter	Sampling approach ⁽¹⁾	Sampling type ⁽²⁾	Population	Sample size
-	-	-	-	-

C.5.Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Areas of validation of compliance	No. of CL	No. of CAR	No. of FAR
Programme of activities	-	-	-
Identification of programme type	-	-	-
Description of PoA	CL 01 CL 02	CAR 01 CAR 02 CAR 21	-
Management system	-	CAR 19	-
Demonstration of additionality of PoA	-	-	-
Start date and duration of PoA	-	CAR 03	-
Environmental impacts	-	CAR 04 CAR 05 CAR 06	-
Socio-economic impacts	-	-	-
Local stakeholder consultation	-	CAR 07 CAR 08	-
Sustainable development co-benefits	-	-	-
Approval	-	CAR 09	-
Authorization	-	-	-
Modalities of communication	-	-	-
Global stakeholder consultation	-	-	-
Generic component project activities	-	-	-
General description of generic CPA	-	CAR 10 CAR 11 CAR 21	-
Selection of methodologies and standardized baselines	-	-	-
•Deviation from methodologies and/or methodological tools	-	-	-
•Clarification on applicability of methodology, tool and/or standardized baseline	-	-	-
Application of methodologies and standardized baselines	-	-	-

•General	-	CAR 12 CAR 13	-
•Project boundary, sources and GHGs	-	CAR 14	-
•Baseline scenario	-	CAR 15	-
•Estimation of emission reductions or net anthropogenic removals	-	-	-
•Monitoring plan	-	CAR 16 CAR 17	-
Crediting period type and duration	-	CAR 18	-
Eligibility criteria for inclusion of CPAs	CL 03	-	-
Others (CDM-PoA-DD Form) (TR comments) (CDM comments)	CL 04	CAR 20 CAR 21 CAR 22	-
Total	04 CLs	24 CARs	0 FAR

SECTION D.Validation findings

D.1.Programme of activities

D.1.1.Identification of programme type

Means of validation	DR, I
Findings	-
Conclusion	The validation team reviewed the PoA-DD /2/ and confirms that the CME determines the type of CDM PoA it intends to design and implement is PoA that will include only large-scale or small-scale or micro-scale non-A/R CPAs. This complies with the requirement of §30 of the CDM PoA PS (version 02.0) /B01-b/ and § 37 CDM VVS for PoA (version 02.0) /B01-a/.

D.1.2.Description of PoA

Means of validation	DR, I
Findings	2 CLs (CL 01, CL 02) and 2 CARs (CAR 01, CAR 02) were raised and satisfactorily closed. Refer to Appendix 4 for details.
Conclusion	<p>The description of the project activity contained in the PoA-DD /2/ is transparent, detailed and provides a clear overview of the project. Its content was confirmed by means of document review (refer section C.1) and interviews to validate the accuracy and completeness of the project description.</p> <p>The proposed PoA will involve implementation of renewable energy power plants. The electricity generated by renewable technology installed as part of the PoA will be utilized in following manner:</p> <ol style="list-style-type: none"> 1. Supplied to national grid of Host country (AMS-I.D or ACM0002); or 2. Supplied to an identified consumer facility via national grid through a contractual wheeling agreement (AMS-I.D or ACM0002); or 3. Supplied to a customer to displace grid import or users for captive use displacing fossil fuel based power generation (AMS-I.F.); or 4. Supplied to mini-grid systems and thereby displacing fossil fuel based power generation (AMS-I.F.) <p>A CPA within this PoA will consist of a single renewable technology (solar PV technology) and use any one of three methodologies but never a combination of any of the applied methodologies. CME has prepared 5 generic CPA-DDs (each for different project scale which applied different methodologies separately) as below:</p>

Case 1: Large-scale Grid Connected CPAs (LGC)

Case 2: Small-scale Grid Connected CPAs (SGC)

Case 3: Small-scale Captive Consumption CPAs (SCC)

Case 4: Micro-scale Grid Connected CPAs (MGC)

Case 5: Micro-scale Captive Consumption CPAs (MCC)

The PoA will result in reduction in usage of fossil fuels, improvement in air quality and overall social and environmental well-being in the region of application. The Coordinating/Managing Entity implementing the PoA is Climate Resources Exchange International Pte Ltd. There are no other project participant associated with the PoA.

The PoA is a voluntary action by the CME as confirmed by the validation team upon review of the LoA /3/ and the PoA-DD /2/.

The PoA-DD /2/ describes how the PoA contributes to the sustainable development in the host country. The validation team reviewed the LoA issued by Vietnam DNA dated 16/03/2020 /3/. Validation team confirms that the PoA contributes to sustainable development in the host country. This is in conformance with the requirements of §33(c) and §83 of PoA-PS (version 02.0) /B01-b/ and §69(c) VVS-PoA (version 02.0) /B01-a/.

In accordance with §39 of VVS-PoA (version 02.0) /B01-a/ the validation team has assessed the geographical boundary of the PoA within which all CPAs included in the PoA will be implemented and confirms that geographical boundary of the PoA is Vietnam. This was as checked and confirmed by reviewing the PoA-DD /2/ and interviews with representatives of CME.

Review of PoA-DD reveals the definition of the boundary for the PoA in terms of a geographical area within Vietnam (within which all CPAs included in the PoA will be implemented) has been transparently defined, and in establishing the boundary of the PoA, the CME has taken into consideration all applicable national and/or sectoral policies and regulations within that chosen boundary. This conforms to the requirement of §33(c) of PoA-PS (version 02.0) /B01-b/ and §39 of VVS-PoA (version 02.0) /B01-a/.

From the desk review of PoA-DD /2/ and interviews of the CME representatives, it is revealed that this programme does not involve any ODA funding. Thus, the validation team considers no ODA funding from any Annex 1 country has been involved under this programme. This is further confirmed by the undertaking /5/ provided by the CME.

As per the PoA-DD /2/, the start date of the PoA is 24/07/2018 /6/ which is the date of notification of the intention to seek the CDM status by the CME to the UNFCCC secretariat and the DNA of the host Party /6/. The same is in accordance with requirements of §41 of PoA-PS (version 02.0) /B01-b/. Further, the validation team confirms that the justification of the start date meets the requirements of the latest Glossary of CDM Terms (version 10.0) /B13/.

The length of the PoA is taken as 28 years. In the PoA-DD /2/ it has been confirmed that no CPA shall be applicable for the inclusion in the PoA if the start date is before the start date of PoA. This is in conformance with the requirements contained in §46 & §47 VVS (version 02.0) /B01-a/ and §185 of PoA-PS (version 02.0) /B01-b/.

Based on the above assessment, CCIPL confirms that the description of the proposed CDM PoA in the PoA-DD is accurate and complete and it provides an understanding of the PoA. This conforms to the requirement of §42 of CDM VVS for PoA (version 02.0) /B01-a/.

D.1.3.Management system

Means of validation	DR, I
Findings	<i>CAR 19 was raised and satisfactorily closed. Refer to Appendix 4 for details.</i>
Conclusion	<p>Validation team reviewed the PoA-DD /2/ and confirms that clear and transparent information about responsibilities, records handling, training, technical review procedures, record keeping, documentation control and measures for continual improvements. The same has been confirmed during the interviews with representatives of CME and document review.</p> <p>The validation team concludes that the operational and management plan described in the PoA-DD /2/ is complete and the information provided is in conformance with the requirements of §36 of the PoA-PS (version 02.0) /B01-b/ and §44 of the VVS-PoA (version 02.0) /B01-a/. This is deemed appropriate by the validation team.</p> <p>Due to non-applicability, no sampling plan has been provided in the PoA-DD. The PoA envisages monitoring to be carried out for each CPA and will involve calculating electricity generation by reading and recording electricity meter readings installed at output of each power plant.</p> <p>This is in conformance with the requirements of the applied methodologies /B02/ and deemed appropriate to the validation team.</p>

D.1.4.Demonstration of additionality of PoA

Means of validation	DR, I
Findings	-
Conclusion	<p>The CME has demonstrated additionality of the proposed CDM PoA by establishing that in the absence of the proposed PoA, none of the implemented CPAs would occur.</p> <p>The CPAs to be included under the PoA will consist of renewable energy technologies (solar PV) that supply electricity to grid and/or will be supplied to the identified facility via host country' national grid through a contractual wheeling agreement for captive consumption thereby displacing the consumption of electricity from the grid. Also the CPAs may include renewable energy generation that supply electricity to users for captive use/mini grid thereby displacing emissions due to combustion of fossil fuel for power generation. Those solar PV projects face substantial technical & financial challenges. There is no mandatory law or requirement in Vietnam for the installation of solar PV technologies/measure. Therefore, without being included in a PoA, those CPA would not occur due to the prevailing practice would have led to implementation of a technology with higher emissions.</p> <p>The CME has included conditions that would systematically demonstrate additionality of CPAs under the proposed CDM PoA in the eligibility criteria for inclusion of CPAs in the proposed PoA. CME will use methodological tools: "Demonstration of additionality of small-scale project activities" (version 13.0) /B09/; "Demonstration of additionality of microscale project activities" (version 09.0) /B08/; "Tool for the demonstration and assessment of additionality" (version 07.0) /B04/. In case of investment analysis is chosen, "Investment Analysis" (version 10.0) will be used /B10/.</p> <p>Moreover, the validation team concludes that the approach used to demonstrate additionality for each CPA to be included under the PoA is in accordance with the requirements of the applied methodologies ACM0002 (version 20.0), AMS-I.D (version 18.0), AMS-I.F (version 03.0) /B02/, and PoA-PS (Version 02.0) /B01-b/.</p> <p>This is in conformance with the requirements of §38, §39 of the PoA-PS (version 02.0) /B01-b/ and §45 of VVS-PoA (version 02.0) /B01-a/.</p>

D.1.5.Start date and duration of PoA

Means of validation	DR, I
Findings	<i>CAR 03 was raised and satisfactorily closed. Refer to Appendix 4 for details.</i>
Conclusion	<p>The validation team reviewed the PoA-DD /2/ and found that the duration of the PoA is 28 years, counting from the start date of the PoA. Based on the above assessment, the validation team concludes that the duration of the proposed PoA is in conformance with the requirements of §43 of PoA-PS (version 02.0) /B01-b/ and §49, §50 of VVS-PoA (version 02.0) /B01-a/.</p> <p>The start date of the PoA is 24/07/2018, which is the date of notification of the intention to seek the CDM status by the CME to the UNFCCC secretariat and the DNA of the host party. The validation team reviewed the UNFCCC PoA interface /B15/ and confirms the same to be accurate. Based on the above assessment, the validation team concludes that the description and determination of the start date of the proposed PoA is in conformance with the requirements of the Glossary of CDM, Version 10.0 /B13/, §41 of PoA-PS (version 02.0) /B01-b/ and §47 of VVS-PoA (version 02.0) /B01-a/.</p>

D.1.6.Environmental impacts

Means of validation	DR, I
Findings	<i>CAR 04, CAR 05, CAR 06 were raised and satisfactorily closed. Refer to Appendix 4 for details.</i>
Conclusion	<p>The validation team has reviewed the PoA-DD and confirmed that CME has been transparently indicated in the section E.1 of PoA-DD /2/ that the environmental impact assessment will be conducted at CPA level.</p> <p>This is deemed appropriate in the context of the PoA and also in conformance to the requirements of §44 of PoA-PS (version 02.0) /B01-b/ and §51 of VVS-PoA (version 02.0) /B01-a/.</p>

D.1.7.Socio-economic impacts

Means of validation	N/A for the proposed PoA is a non-A/R CDM PoA
Findings	N/A
Conclusion	N/A

D.1.8.Local stakeholder consultation

Means of validation	DR, I
Findings	<i>CAR 07; CAR 08 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>It has been indicated in the PoA-DD /2/ that the local stakeholder consultation will be done at CPA level.</p> <p>This is deemed appropriate in the context of the PoA and is in accordance with the requirement of §51 of PoA-PS, Version 02.0 /B01-b/ and §58 of VVS-PoA, Version 02.0 /B01-a/</p>

D.1.9.Sustainable development co-benefits

Means of validation	Sustainable development co-benefits will not be monitored in the specific monitoring plan
Findings	N/A
Conclusion	N/A

D.1.10.Approval

Means of validation	DR, I
Findings	<i>CAR 09 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>By checking the PoA-DD /02/, and the LoA /03/ the following can be confirmed:</p> <p>The LoA /03/ from the host country (Vietnam) has been obtained and furnished to</p>

	<p>the DOE by the CME. The LoA, issued on 16/03/2020, has been signed and stamped by an authorized representative of the DNA. LoA states that:</p> <ol style="list-style-type: none"> 1. Title of the PoA: The Solar United Network South East Asia Pacific (SUNSEAP) Program. 2. This PoA is developed by Climate Resources Exchange International Pte Ltd. 3. The government of Vietnam has ratified the Kyoto Protocol on 25 Sept 2002; 4. The participation in the proposed programme CDM project activities is voluntary; 5. The project contributes to sustainable development of Vietnam; <p>Validation Team based on above can confirm that the issued LoA /03/ from host party refers to the precise proposed PoA title as in the PoA-DD /02/. The Validation Team can also confirm that the project participant is listed in tabular form in section A.5 of the PoA-DD /02/ and this information is consistent with the contact details provided in Appendix 1 of the PoA-DD /02/ and LoA /03/ issued. The Letter of Approval was also found to be unconditional with respect to §69 (a) to (d) of CDM VVS for PoAs (version 02.0) /B01-a/.</p> <p>The assessment above is in compliance with §70-§73 of CDM VVS for PoAs (version 02.0) /B01-a/. During the on-site inspection, the validation team has reviewed the correspondence email between CME and DNA Vietnam and confirmed that the LoA is authentic and validated in line with the VVS-PoA (version 2.0) /B01-a/.</p>
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D.1.11. Authorization

Means of validation	DR, I
Findings	<i>CAR 09 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>There is no separate letter of authorization apart from the LoA.</p> <p>By checking the PoA-DD /02/, and the LoA /03/ the following can be confirmed:</p> <p>The LoA /03/ from the host country (Vietnam) has been obtained and furnished to the DOE by the CME. The LoA, issued on 18/04/2019, has been signed and stamped by an authorized representative of the DNA. LoA states that:</p> <ol style="list-style-type: none"> 1. Title of the PoA: The Solar United Network South East Asia Pacific (SUNSEAP) Program. 2. This PoA is developed by Climate Resources Exchange International Pte Ltd. 3. The government of Vietnam has ratified the Kyoto Protocol on 25 Sept 2002; 4. The participation in the proposed programme CDM project activities is voluntary; 5. The project contributes to sustainable development of Vietnam; <p>Validation Team based on above can confirm that the issued LoA /03/ from host party refers to the precise proposed PoA title as in the PoA-DD /02/. The Validation Team can also confirm that the project participant is listed in tabular form in section A.5 of the PoA-DD /02/ and this information is consistent with the contact details provided in Appendix 1 of the PoA-DD /02/ and LoA /03/ issued. The Letter of Approval was also found to be unconditional with respect to §69 (a) to (d) of CDM VVS for PoAs (version 02.0) /B01-a/.</p> <p>The assessment above is in compliance with §70-§73 of CDM VVS for PoAs (version 02.0) /B01-a/. During the on-site inspection, the validation team has reviewed the correspondence email between CME and DNA Vietnam and confirmed that the LoA is authentic and validated in line with the VVS-PoA (version 2.0) /B01-a/.</p>

D.1.12.Modalities of communication

Means of validation	DR
Findings	-
Conclusion	The validation team confirms that the latest applicable template has been utilized by the CME for the MoC /4/. The MoC has been received from the coordinating/managing entity with whom the DOE has signed contract for the validation service of this proposed project. The personal identity, specimen signatures and employment status of personal who has signed the MoC /4/ was confirmed through document review /4/, this confirms to the requirement of §75 of PoA-PS (version 02.0) /B01-b/ and §82 (c) of VVS-PoA (version 02.0) /B01-a/

D.1.13.Global stakeholder consultation

Means of validation	DR, I
Findings	-
Conclusion	The process for global stakeholder consultation was conducted in accordance with the requirements of section 7.14 of the VVS-PoA (version 02.0) /B01-a/. The PoA-DD /2/ was published for global stakeholder consultation from 14/02/2019 to 16/03/2019. No comments have been received during the global stakeholder consultation process. This is in conformance to the requirements of §167 of VVS-PoA (version 02.0) /B01-b/.

D.2.Generic component project activities**Case 1 - Large-Scale Grid Connected CPAs (LGC)****D.2.1.General description of generic CPA**

Means of validation	DR, I
Findings	<i>CAR 10, CAR 11 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	After review of the PoA-DD /2/ the validation team confirms that a typical CPA will involve installation and operation of a new grid-connected solar PV power plant/ unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The electricity generated from CPA would be exported to the host country's national grid by displacing the consumption of electricity from the grid electricity distribution system. This was further confirmed during the off-site visit interviews with the representatives of the CME and document reviews. The description provided for a generic CPA in part II of PoA-DD /2/ is in conformance to the requirements of §90 of VVS-PoA (version 02.0) /B01-a/.

D.2.2.Selection of methodologies and standardized baselines**D.2.2.1.Deviation from methodologies and/or methodological tools**

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2.2.2.Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	N/A
Conclusion	No clarification on applicability of methodology and or tools to the proposed PoA has been issued.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1.General

Means of validation	DR, I		
Findings	CAR 12, CAR 13 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<p>The methodology applied is ACM0002 (version 20.0) /B02/. It is applicable to Greenfield grid connected renewable energy based power plant. By means of interviews with representatives of CME and document check this could be confirmed.</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website /B15/. The applied version of the baseline and monitoring methodology /B02/ is valid at the time of submission for stakeholder consultation and also request for registration. All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled (see table below).</p>		
	Applicability criteria of the methodology (ACM0002), Version 20.0	Justification in the PoA-DD	Determination by the validation team
	<p>This methodology applies to project activities that include retrofitting, rehabilitation (or refurbishment), replacement or capacity addition of an existing power plant or construction and operation of a Greenfield power plant.</p>	<p>Yes. CPA under this PoA is the installation of a new grid connected renewable energy power plant (solar PV) and hence this condition is met.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>This methodology is applicable to grid-connected renewable power generation project activities that:</p> <ul style="list-style-type: none"> a) install a Greenfield power plant b) involve a capacity addition to (an) existing plant(s) c) Involve a retrofit of (an) existing operating plants/units; d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or e) Involve a replacement of (an) existing plant(s)/unit(s). 	<p>Yes Any CPA under this PoA is installation of a new grid connected renewable energy power plant (solar PV) at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence this criterion is applicable.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract,</p>

	<p>The project activity may include renewable energy power plant/unit of one of the following types: 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;</p>	<p>Yes The proposed CPA under this PoA will be an installation of a new grid connected renewable energy power plant (solar PV) and hence this condition is met.</p>	<p>PPA, etc)</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>In case of hydro power plants, one of the following conditions shall apply:</p> <p>a)The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or</p> <p>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/m² ; or</p> <p>c)The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m² ; or</p> <p>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/m² , all of the following conditions shall apply:</p> <p>i)The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4</p>	<p>Not applicable. The proposed CPA under the PoA does not involve any type of hydro power, therefore it is not applicable.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>

	<p>W/m² ;</p> <p>ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</p> <p>iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be:</p> <p>(1) Lower than or equal to 15 MW; and</p> <p>(2) Less than 10 per cent of the total installed capacity of integrated hydro power project.</p>		
	<p>In the case of integrated hydro power projects, project proponent shall:</p> <p>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</p> <p>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 account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity.</p>	<p>Not applicable</p> <p>The proposed CPA under the PoA does not involve any type of hydro power, therefore it is not applicable.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>The methodology is not applicable to: (a) Project activities that involve:</p>	<p>Not applicable.</p> <p>The CPA under PoA will be installation of</p>	<p>The applied methodology is correctly quoted and is identical to</p>

	<ul style="list-style-type: none"> •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 •Biomass fired power plants/units 	<p>a new grid connected renewable energy project (Solar PV) and does not involve switching from fossil fuel to renewable energy and hence this criterion is not relevant to the PoA.</p> <p>This PoA does not involve any biomass-based power plants and hence this criterion is not applicable to the project activity.</p>	<p>the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>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".</p>	<p>Not applicable. The CPA under PoA will be a new grid connected renewable energy plant (Solar PV) and not a retrofit, replacement or capacity additions and therefore this criterion is not applicable to the project activity.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>In addition to the requirements set out in the latest approved version of the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities", the following shall be applied for the use of this methodology in a project activity under a programme of activities (PoAs).</p>	<p>Not applicable The 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities' is obsolete and has since merged with the PoA-PS, which the PoA-DD adheres to.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable as the 'Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities' is obsolete and merged with PoA-PS</p>
	<p>The PoA may consist of one or several types of CPAs. CPAs are regarded to be of the same type if they are similar with regard to the demonstration of</p>	<p>Yes. The PoA only consists of one technology which is Solar PV. CPAs will be</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is</p>

	<p>additionality, emission reduction calculations and monitoring. The coordinating/managing entity (CME) shall describe in the CDM-PoA-DD for each type of CPAs separately</p>	<p>regarded to be of the same type if they are similar with regards to the demonstration of additionality, emission reduction calculations and monitoring. The only differentiation will be for the small-scale and micro-scale CPAs, which would only differ in terms of demonstration of additionality, where the project activities are deemed automatically additional.</p>	<p>reasonable. The CME has described in the CDM-PoA-DD for each type of CPAs separately. The validation team has checked and deem it appropriate.</p>
	<p>Eligibility criteria for CPA inclusion used for each type of CPAs. In case of combinations of renewable technologies in one CPA, the eligibility criteria shall be defined for each technology separately. (a) Emission reduction calculations for each type of CPAs; (b) Monitoring provisions for each type of CPAs.</p>	<p>Not Applicable The CPA under the PoA will only consist of one technology (Solar PV), therefore this criterion is not applicable to the PoA and any CPA to be included.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This CPA only include Solar PV technology</p>
	<p>The CME shall describe transparently and justify in the CDM-PoA-DD which CPAs are regarded to be of the same type. CPAs shall not be regarded to be of the same type if one of the following conditions is different: (a) The project activity with regard to any of the following aspects: (i) Renewable energy power generation technology; a. Hydro-power plant/unit; i. Hydropower plant/unit with reservoir; ii. Hydropower plant/unit without reservoir; b. Wind power plant/unit; c. Geothermal power plant/unit;</p>	<p>Not Applicable The CPA will be regarded to be of the same type unless one the conditions¹ referenced in ACM0002 Ver20.0, Section 5.9, Para 60(a) – (b) are different. As the CPA under the PoA only consists of greenfield Solar power plant/unit (Photovoltaic) technology, all CPAs under this PoA will be considered the same with respect to technology (Solar PV).</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 1: Large-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant with capacity > 15MW can be included in the PoA. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc).</p>

¹ Conditions refer to: Renewable energy power generation technology, Project activity type and the legal and regulatory framework as per ACM0002 Ver20.0, Section 5.9, Para 60(a).

	<p>d. Solar power plant/unit;</p> <p>i. Photovoltaic; ii. Heat concentration; e. Wave power plant/unit; f. Tidal power plant/unit; g. Combination of any of the above;</p> <p>(ii) Project activity type: a. Greenfield; b. Capacity addition; c. Retrofit of existing operating plant/unit; d. Rehabilitation of existing plant/unit; e. Replacement of existing plant/unit;</p> <p>(b) The legal and regulatory framework; (i) Legal regulations; (ii) Promotional policies</p>		
	<p>When defining eligibility criteria for CPA inclusion for a distinct type of CPAs, the CME shall consider relevant technical and economic parameters, such as:</p> <p>a) Technical and economic parameters that are technology specific (e.g. ranges of load factors, sizes of installation, wind speed); b) Parameters reflecting the investment climate: (i) Subsidies or other financial flows; (ii) Tariffs; (iii) Depreciation; (iv) Power purchase agreements; (v) Other parameters determining market circumstances; c) Ranges of costs (capital investment, operating and maintenance costs, etc.) and revenues (income from electricity sale, subsidies/fiscal incentives, official development assistance (ODA)).</p>	<p>Yes The CPA under the PoA will consider/analyse all technical and economic parameters with respect to large-scale CPAs.</p> <p>The CPA will also consider parameters reflecting the investment climate and ranges of cost, under its investment analysis, when demonstrating additionality.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There are inclusion criterion for specific technology/measures and parameters reflecting investment climate. The validation team has checked and confirmed that it is appropriate. This will be reviewed again at CPA level.</p>
	<p>If Option (ii) in the latest approved version of the "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programmes of activities" is</p>	<p>Not Applicable The "Standard for demonstration of additionality, development of eligibility criteria and application of multiple</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. PP will use the</p>

	<p>applied, that is related to defining technical and economic criteria as ranges of values for each input parameter required for the inclusion of the CPA in the PoA-DD, the eligibility criteria related to costs, revenues and investment climate shall be updated every two years in order to correctly reflect the technical and market circumstances of a CPA implementation.</p>	<p>methodologies for programmes of activities” is obsolete and merge with PS-PoA.</p> <p>The PoA will instead follow 124(g)-IV-a where it will conduct an investment analysis to each CPA. In this case, the CME will define the inout parameters that will be used in the investment analysis in the PoA, together with a description of how the values for these parameters will be obtained.</p> <p>The additionality of the CPA will be assessed by using the actual values, applicable to the CPA at the time of inclusion, for the purpose of demonstrating the additionality of the CPA.</p>	<p>investment analysis, they has defined clearly which input parameters will be used in the investment analysis and how those values will be obtained. The validation team has checked and confirmed that those are appropriate. This actually values will be reviewed again at CPA level.</p>

D.2.3.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	<i>CAR 14 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>As per §20 of the applied methodology ACM0002 (version 20.0), the boundary of a typical CPA under this PoA confines to “the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. Using a diagrammatic approach, the CPA boundary has been correctly identified in section B.3 of Part II of PoA-DD /2/.</p> <p>Validation team also confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered appropriately. This is in conformance with §105 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.3. Baseline scenario

Means of validation	DR, I
Findings	<i>CAR 15 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD /2/.</p> <p>As prescribed by §22 of the methodology ACM0002 (version 20.0), the baseline scenario is generalised by the following statement:</p>

	<p>"If the project activity is the installation of a Greenfield power plant, the baseline scenario is the following:</p> <p>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, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".</p> <p>As defined in the PoA, the CPAs will involve setting up of renewable energy technology to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of electricity would have been supplied by the Vietnam National grid, which is fed majorly based on fossil fuel fired plants.</p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of the applied methodology /B02/ and §111 of VVS-PoA (version 02.0) /B01-a/.</p>
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D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	DR, I
Findings	-
Conclusion	<p>The equations and choices provided in the applied methodology, ACM0002 (version 20.0) /B02/ are correctly quoted in the PoA-DD /2/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology.</p> <p>Baseline Emissions:</p> <p>The baseline emission calculation for the CPAs are attributable to the CO₂ Emission that could have been produced by the fossil fuel based power plants in absence of the proposed project activity. Therefore, the amount electricity supplied to the Vietnam National grid will be multiplied by the grid emission factor of Vietnam national grid to calculate the baseline emissions reduced by the proposed project activity.</p> $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ <p>Where,</p> <p>BE_y = Baseline Emissions in year y (t CO₂)</p> <p>$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)</p> <p>$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO₂/MWh)</p> <p>As the CPA involves installation of greenfield power plants, in accordance with § 41 of the applied methodology:</p> $EG_{PJ,y} = EG_{facility,y}$ <p>Where,</p> <p>$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)</p> <p>$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)</p> <p>As per the applied methodology, Combined margin approach (CM) has been chosen to calculate the grid emission factor as per the 'Tool to calculate the</p>

emission factor for an electricity system' version 7 /B11/ since data is available from an official source.

The baseline emission factor is calculated using the combined margin approach as described in the following steps:

STEP 1: Identify the relevant electricity systems;

STEP 2: Determine boundary of calculation in the project electricity system

STEP 3: Select a method to determine the operating margin (OM);

STEP 4: Calculate the operating margin emission factor according to the selected method;

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

Calculation of Baseline Emission Factor EF_y

The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$):

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where,

w_{OM} = 75% weight for wind/solar energy projects and 50% for Hydro projects

w_{BM} = 25% weight for wind/solar energy projects and 50% for Hydro projects

$EF_{OM,y}$ = calculated as described in Steps 3&4 above (tCO₂/MWh)

$EF_{BM,y}$ = calculated as described in Steps 5 above (tCO₂/MWh)

Emission factor of Vietnamese national grid is calculated and published by Vietnam DNA, Department of Climate Change, Ministry of Natural Resources and Environment (Official Dispatch No. 263/BDKH dated 12 March 2020), including:

Variables	Values	Source
Operating Margin Emission Factor	0.8795 tCO ₂ /MWh	Ministry of Natural Resources and Environment Vietnam (Most Updated Figure) ²
Build Margin Emission Factor	0.9465 tCO ₂ /MWh	

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

$$\Rightarrow EF_{grid,CM,y} = 0.75 \times 0.8795 + 0.25 \times 0.9465 = 0.89625 \text{ (tCO}_2\text{/MWh)}$$

The validation team has reviewed the Vietnam Emission Factor Calculation report published by Vietnam DNA, and confirm the $EF_{grid,CM,y}$ was correctly calculated according to "Tool to calculate the emission factor for an electricity system" version 7 /B11/, using the most updated data up to the time of the validation report.

Project Emissions:

For most renewable power generation projects activities $PE_y = 0$. As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the CPA is not geo-thermal or solar thermal, project emissions are not applicable.

Hence $PE_y = 0$

Leakage Emissions:

No Leakage emissions are considered. The main emission potentially giving rise to leakage in the context of electrical sector projects is emission arising due to activities arising such as power plant construction and upstream emission from

² Vietnam's Grid emission factor for Vietnam, 2020, [http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu,-xay-dung-he-so-phat-thai-\(EF\)-cua-luoi-dien-Viet-Nam-\(K%C3%A8m-CV-263/BDKH\).html](http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu,-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html)

	<p>fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected. Hence, $LE_y = 0$</p> <p>Emission reduction (ER_y): The project activity mainly reduces carbon dioxide through substitution of grid electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction ER_y by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission. Hence in accordance with §54 of the applied methodology: $ER_y = BE_y - PE_y$</p> <p>Where, ER_y = Emission Reduction in year y (tCO₂/year) BE_y = Baseline emission in year y (tCO₂/year) PE_y = Project emissions in year y (tCO₂/year)</p> <p>This is complied with §122-126 VVS-PoA (Version 02.0) /B01-a/, the validation team hereby confirms that:</p> <p>(a) All assumptions and data used by the PP are listed in the generic CPA-DD, including their references and sources;</p> <p>(b) All documentation used by CME as the basis for assumptions and source of data is correctly quoted and interpreted in the generic CPA-DD;</p> <p>(c) All values used in the generic CPA-DD are considered reasonable in the context of the proposed generic CPA;</p> <p>(d) The baseline methodology ACM0002 and 'Tool to calculate the emission factor for an electricity system' version 7 /B11/ has been applied correctly to calculate project emissions, baseline emissions, leakages as well as emission reductions;</p> <p>(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the generic CPA-DD.</p>
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D.2.3.5. Monitoring plan

Means of validation	DR, I		
Findings	CAR 16, CAR 17 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<u>Monitoring plan:</u>		
	The following parameters will be fixed ex-ante at PoA Level:		
	Parameters	Value	Assessment
	Operating Margin CO2 emission factor in year y ($EF_{grid,OM,y}$)	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Build Margin CO2 emission factor in year y ($EF_{grid,BM,y}$)	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Combined Margin CO2 emission factor in year y ($EF_{grid,CM,y}$)	0.89625 tCO ₂ /MWh	Calculated. Validation team has noted that the value of Combined grid emission factor is

		calculated according to version 07.0 of the "Tool to calculate the emission factor for an electricity system", the following default weights are applied to solar power plants: wOM = 0.75 and wBM = 0.25. The calculation is correctly done thus acceptable to the validation team.			
	<p>The following parameters will be monitored</p>				
	<p>Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) (EG_{PJ,y} or EG_{facility,y})</p>	<table border="1"> <thead> <tr> <th>Parameters</th> <th>Assessment</th> </tr> </thead> <tbody> <tr> <td></td> <td> <p>The meter at the monitoring point is a bidirectional meter or electronic tri-vector meter. It will measure the total electricity exported to the Grid (EG_{export,y}) and total electricity imported from the Grid (EG_{import,y}) for internal consumption by the project.</p> <p>Therefore, the net electricity supplied by the project activity is the result of the parameters EG_{export,y} subtract to EG_{import,y}.</p> $EG_{PJ,y} = EG_{Export} - EG_{Import}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007³ and Decision No.25/2007/QD-BKHCN dated 05/10/2007⁴ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p> </td> </tr> </tbody> </table>	Parameters	Assessment	
Parameters	Assessment				
	<p>The meter at the monitoring point is a bidirectional meter or electronic tri-vector meter. It will measure the total electricity exported to the Grid (EG_{export,y}) and total electricity imported from the Grid (EG_{import,y}) for internal consumption by the project.</p> <p>Therefore, the net electricity supplied by the project activity is the result of the parameters EG_{export,y} subtract to EG_{import,y}.</p> $EG_{PJ,y} = EG_{Export} - EG_{Import}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007³ and Decision No.25/2007/QD-BKHCN dated 05/10/2007⁴ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p>				

The monitoring plan as provided in the generic CPA also includes information on objective, data recording, roles and responsibilities, data archiving and QA/QC procedures (meter calibration procedures). The arrangements described in the generic CPA are common practice for such kind of project activities. The data will

³ <https://vanbanphapluat.co/decision-no-13-2007-qd-bkhn-promulgating-list-of-measurement-means-subject-to-expertise>

⁴ <https://vanbanphapluat.co/decision-no-25-2007-qd-bkhn-procedure-and-cycles-of-verification-of-measurement-instruments>

	<p>be archived for two years after the crediting period.</p> <p>The monitoring plan content has been checked in the generic CPA and compared against the requirements of the monitoring methodology /B02/.</p> <p>The monitoring plan is assessed to be appropriate for the technology type installed. All means of implementing the monitoring plan are in line with the applied and monitoring methodology /B02/. The validation team has no doubts that the monitoring arrangements as described in the part II of PoA-DD /2/ will be implemented properly. This is in conformance with the requirements of §127 and §149 of VVS-PoA (version 02.0) /B01-a/.</p>
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D.2.4.Crediting period type and duration

Means of validation	DR, I
Findings	<i>CAR 18 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The validation team reviewed the PoA-DD /2/ and found that the CME has defined the type and duration of all corresponding CPA is Renewable Crediting Period, and the duration is 7 years 0 month, renewable for 3 times maximum. The duration of crediting period of each CPA is limited to the end date of the PoA or the expected lifetime of the CPA whichever comes earlier</p> <p>Based on the above assessment, the validation team concludes that the crediting period type and duration is in conformance with the requirement of §135 PoA-VSS (Version 02.0) /B01-a/ and § 122 PS-PoA (Version 02.0) /B01-b/.</p>

D.2.5.Eligibility criteria for inclusion of CPAs

No.	Eligibility criterion – Category/Required condition	Means of validation	Findings	Conclusion
1	<p>Category: Geographical boundaries of CPAs consistent with the geographical boundary of the PoA;</p> <p>Required condition: The geographical boundary of the CPA area is uniquely defined and within the boundary of Vietnam</p>	<p>The geographical boundary of this CPA is within the geographical boundary of Vietnam. The criterion will be checked with GPS coordinates, maps as per feasibility studies, third party PLF report, land commissioning documents, permission from regulatory authorities or any other relevant document. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>According to §124 (a), of the CDM project standard for programmes of activities, version 2.0, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA. The PoA boundary is set as Vietnam. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
2	<p>Category: Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals</p>	<p>This criterion will be stated in the inclusion contract where location is defined. CME will cross-check the unique GPS</p>	<p><i>CL 03 was raised and satisfactorily closed.</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient</p>

	<p>Required condition: The CPA is not part of any other_PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>Refer to Appendix 4 for details</i></p>	<p>to avoid double counting in future. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
3	<p>Category: Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered;</p> <p>Required condition: The CPA is not part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined. CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124I of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to confirm that CPAs are neither registered as CDM project activities, or included in another registered PoAs, nor the project activities that have been deregistered. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
4	<p>Category: Specification of the technology/measure</p> <p>Required condition: Technology for solar PV array use for CPAs consisting of either: - Monocrystalline Solar Panels (Mono-Si) - Polycrystalline Solar Panels (p-Si) - Thin-Film: Amorphous Silicon Solar Panels (A-Si)</p>	<p>This can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield CPA. The key specifications of relevant technology (solar PV, inverter) and their details or numerical values</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM project standard for programmes of activities, version 2.0. All CPAs shall apply the methodology ACM0002 (Version 20.0). Provided the CPA met the</p>

	<p>- Concentrated PV Cell (CVP) The Solar PV system will include:</p> <ul style="list-style-type: none"> -Mounting structures (potentially also including tracking system) -Junction box, distribution boxes and DC (direct current) cabling connecting modules with inverters -Inverters -Production meter on AC (alternating current) inverter output side (integrated to inverter) -Data logger and/or gateway to internet (potentially integrated to inverter) -Transformers -Circuit breakers -System for control and monitoring -Grid utility meter <p>Evacuation system / grid connection system The capacity range of Case 1's entire system will be >15MW. Electricity produced by the project activity will be monitored at the point it is exported to the grid. The technology shall have Approval / certification from the relevant designated authority. All the equipment of each CPA will be complying with applicable national/ international standards.</p>	<p>should be mentioned in real case specific CPA-DD. The technology shall have approval/ certification from the relevant designated authority. All the equipment of each CPA will be complied with applicable national/ international standards. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>		<p>eligibility criteria, the technology under the CPAs of the PoA will be eligible as per ACM0002 (Version 20.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
5	<p>Category: Conditions to check the start dates of CPAs through documentary evidence;</p> <p>Required condition: The CPA only started after the start date of the PoA.</p> <p>The start date of the PoA is considered as 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & the relevant country's DNAs.</p> <p>Therefore, start date of the CPA must be later than 24/07/2018</p>	<p>As per the PS-PoA version 02.0, no CPA may commence before the PoA start date, or exceed the PoA lifetime. The start date of this PoA is 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & relevant country's DNAs. For the starting date of the CPA the Purchase orders/contracts for equipment or construction/operation services or any other documents as stated in the Glossary of CDM terms will be taken into account.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (e) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to ensure no CPA may start before the PoA start date. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and</p>

		Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.		comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
6	<p>Category: Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents;</p> <p>Required condition: Project Activity will comply with applicability conditions of ACM0002 (ver 20.) where it will. 1.Be an installation of a Greenfield Power Plant 2.Include only Solar PV technology 3.Energy Generated will be grid-connected 4.Be of plant capacity > 15MW</p>	<p>The CPA is required to fulfil the applicability criteria. Technology & installed capacity can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity > 15MW. The connectivity to the grid (if applicable) can be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as 124 (f) of the CDM project standard for programmes of activities, version 2.0. All CPAs shall apply the methodology ACM0002 (Version 20.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will be eligible as per ACM0002 (Version 20.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
7	<p>Category: Conditions related to undertaking local stakeholder consultation and environmental impact analysis;</p> <p>Required condition: The CPA shall conduct a local stakeholder consultation and environmental impact assessment according to local regulation. This will be reviewed by CME at CPA level</p>	<p>Local stakeholder consultation and environmental impact analysis will be checked at CPA level. If host country regulation required, EIA Report / clearance from Government agency if applicable will be provided as evident documents Minutes of meeting, attendance records, invitation letters, etc. will be provided as means of proof for the local stakeholder consultation. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</p>	<p>As per the PoA DD /02/, the local Stakeholder Consultation (LSC) and environmental impact assessment are on CPA Level. Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (i) of the CDM project standard for programmes of activities, version 2.0. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard. Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides</p>

				information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
8	<p>Category: Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.</p> <p>Required condition: The CPA does not involve funding from Annex I parties that results in a diversion of official development assistance.</p>	<p>Undertaking from CPA Owner or CPA Implementer will be provided. The CME will check this information to ensure no funding from Annex I parties. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
9	<p>Category: Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off grid), and where applicable, distribution mechanisms (e.g. direct installation);</p> <p>Required condition: The CPA supplies electricity to the national/regional grid or uses national grid for captive or third-party sale</p>	<p>The CPA will supply electricity to national/regional grid or uses national grid for captive or third-party sale. This eligibility criteria shall be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (k) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
10	<p>Category: Condition to ensure the CPA meet the requirement for</p>	<p>The CPA will be additional according to additionality</p>	<p><i>CL 03 was raised</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs §124</p>

	<p>demonstration of additionality.</p> <p>Required condition: The CPA is additional according to additionality assessment of ACM0002. Additionality will be proven on a per CPA basis.</p> <p>If the investment analysis is used for the demonstration of additionality, the project activity will define the input parameters that will be used in the investment analysis as the table below.</p> <p>The additionality of each CPA shall then be assessed by using the actual values, applicable to that CPA at the time of inclusion, in the investment analysis conducted for the purpose of demonstrating the additionality of the CPA.</p> <p>Project and Equity IRR are also to be within the range of 8-12%. This range of IRR is a typical for solar PV investments in the region.</p>	<p>assessment of ACM0002, follow the most updated version of "Tool for the demonstration and assessment of additionality". In case, the investment analysis is used for the demonstration of additionality of the CPA, CME has defined the input parameters that will be used in the investment analysis in the PoA-DD, together with a description of how the values for these parameters will be obtained for each CPA.</p> <p>The additionality of each CPA shall then be assessed by using the actual values, applicable to the CPA at the time of inclusion, in the investment analysis conducted for the purpose of demonstrating the additionality of the CPA.</p> <p>As the investment analysis will be done at CPA level, hence parameters related to investment (like capital cost, PLF, tariff, subsidy if any, depreciation, etc) will vary for each project. Hence for each CPA, investment related parameters will be considered during investment analysis at the time of CPA inclusion.</p> <p>The above approach followed by the CME is found to be appropriate and in line with the applied methodology ACM0002, version 20.</p> <p>In conclusion, additionality for the CPA will be demonstrated in the CPA-DD which can be cross checked with DPR / Purchase order / clearances and any</p>	<p><i>and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>(g) of the CDM project standard for programmes activities, version 2.0.</p> <p>All CPAs shall be demonstrated at the CPA level and provided they met this eligibility criteria of the PoA. This is adequately prescribed in section C of the PoA-DD. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
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		other relevant documents as stated in the PoA-DD for in line with the Methodological tools “Demonstration of additionality of small-scale project activities” / “Investment analysis”. This is deemed reasonable and sufficient to substantiate the eligibility.		
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Case 2 - Small-Scale Grid Connected CPAs (SGC)

D.2.1.General description of generic CPA

Means of validation	DR, I
Findings	<i>CAR 10, CAR 11 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	After review of the PoA-DD /2/ the validation team confirms that a typical CPA will involve installation and operation of a new grid-connected solar PV power plant/ unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The electricity generated from CPA would be exported to the host country's national grid by displacing the consumption of electricity from the grid electricity distribution system. This was further confirmed during the off-site visit interviews with the representatives of the CME and document reviews. The description provided for a generic CPA in part II of PoA-DD /2/ is in conformance to the requirements of §90 of VVS-PoA (version 02.0) /B01-a/.

D.2.2.Selection of methodologies and standardized baselines

D.2.2.1.Deviation from methodologies and/or methodological tools

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2.2.2.Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	N/A
Conclusion	No clarification on applicability of methodology and or tools to the proposed PoA has been issued.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1.General

Means of validation	DR, I
Findings	<i>CAR 12, CAR 13 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	The methodology applied is AMS-I.D (version 18.0) /B02/. It is applicable to Greenfield grid connected renewable energy based power plant. By means of interviews with representatives of CME and document check this could be confirmed. The applied methodology is correctly quoted and is identical to the version available

	on the UNFCCC website /B15/. The applied version of the baseline and monitoring methodology /B02/ is valid at the time of submission for stakeholder consultation and also request for registration. All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled (see table below)		
	Applicability criteria of the methodology (AMS-I.D), Version 18.0	Justification in the PoA-DD	Determination by the validation team
	<p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:</p> <p>(a) Supplying electricity to a national or a regional grid; or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p>	<p>Yes</p> <p>The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options</p> <p>(a) "Supplying electricity to a national or a regional grid" and /or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p> <p>Hence the CPA under PoA meets the given applicability criterion.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 15MW can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	Illustration of respective situations under which each of the methodology (i.e. "AMS-I.D.: Grid connected renewable electricity generation", "AMS-I.F.: Renewable electricity generation for	<p>Yes</p> <p>The 1st option of Table 1⁵ of AMS I.D. Version 18, 'Methodology key elements', is applicable when CPA under PoA supplies electricity to a national/regional grid</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included</p>

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	Project type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid ¹¹ system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

	<p>captive use and mini-grid” and “AMS-I.A.: Electricity generation by the user) applies is included below.</p>	<p>and/or 3rd option is applicable when CPA under PoA supplies electricity to an identified consumer via national/regional grid through contractual arrangement.</p>	<p>also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 15\text{MW}$ can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>The methodology is applicable under the following conditions: a)Install a Greenfield plant; b)Involve a capacity addition in (an) existing plant(s); c)Involve a retrofit of (an) existing plant(s); d)Involve a rehabilitation of (an) existing plant(s)/unit(s); or e)Involve a replacement of (an) existing plant(s).</p>	<p>Yes. The proposed CPA under PoA will be an installation of a new grid connected or isolated grid connected renewable energy power plant (using solar PV technology) and hence the first condition is met.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 15\text{MW}$ can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: a)The project activity is implemented in an existing reservoir with no change in the volume of reservoir. b)The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2 ; The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4</p>	<p>Not applicable. This PoA does not involve Hydro Power, hence this criterion is not applicable to the CPA.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 15\text{MW}$ can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>

	W/m2 .		
	If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	Not applicable This PoA is for Solar Power, and will not involve any co-generation, hence this criterion is not applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 15MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Combined heat and power (co-generation) systems are not eligible under this category.	Not applicable This PoA does not involve combined heat and power (co-generation) power plants/systems and hence this criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 15MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Not applicable The project activity involves the addition of renewable energy generation units not exceeding the limit of 15 MW to an existing renewable power generation facility.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 15MW can be included in this case. So this is not applicable. This will be crossed

		check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW	Not applicable The CPA under PoA will be a new grid connected renewable energy plant (Solar PV) and not a retrofit, replacement or capacity additions and therefore this criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 15\text{MW}$ can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	Not applicable This PoA is for Solar Power, and will not involve the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category., hence this criterion is not applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 15\text{MW}$ can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not applicable This PoA is for Solar Power, and will not involve the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included

		methane emissions are eligible under a relevant Type III category., hence this criterion is not applicable.	also in the CPA inclusion criteria for case 2: Small-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 15MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
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D.2.3.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	<i>CAR 14 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>As per §18 of the applied methodology AMS-I.D (version 18.0), the boundary of a typical CPA under this PoA confines to “the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. Using a diagrammatic approach, the CPA boundary has been correctly identified in section B.3 of Part II of PoA-DD /2/.</p> <p>Validation team also confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered appropriately. This is in conformance with §105 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.3. Baseline scenario

Means of validation	DR, I
Findings	<i>CAR 15 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD /2/.</p> <p>As prescribed by §19 of the methodology AMS-I.D (version 18.0), the baseline scenario is generalised by the following statement:</p> <p>“If the project activity is the installation of a Greenfield power plant, the baseline scenario is the following:</p> <p>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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</p> <p>As defined in the PoA, the CPAs will involve setting up of renewable energy technology to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of electricity would have been supplied by the Vietnam national grid, which is fed majorly based on fossil fuel fired plants.</p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of the applied methodology /B02/ and §111 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	DR, I
Findings	-
Conclusion	The equations and choices provided in the applied methodology, AMS-I.D (version 18.0) /B02/ are correctly quoted in the PoA-DD /2/. The emission reductions of the

CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology.

Baseline Emissions:

The baseline emission calculation for the CPAs are attributable to the CO₂ Emission that could have been produced by the fossil fuel based power plants in absence of the proposed project activity. Therefore, the amount electricity supplied to the Vietnam National grid will be multiplied by the grid emission factor of Vietnam national grid to calculate the baseline emissions reduced by the proposed project activity.

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

Where,

BE_y = Baseline Emissions in year y (t CO₂)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

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

As the CPA involves installation of greenfield power plants, in accordance with § 26 of the applied methodology:

$$EG_{PJ,y} = EG_{facility,y}$$

Where,

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

As per the applied methodology, Combined margin approach (CM) has been chosen to calculate the grid emission factor as per the 'Tool to calculate the emission factor for an electricity system version 7 /B11/ since data is available from an official source.

The baseline emission factor is calculated using the combined margin approach as described in the following steps:

STEP 1: Identify the relevant electricity systems;

STEP 2: Determine boundary of calculation in the project electricity system

STEP 3: Select a method to determine the operating margin (OM);

STEP 4: Calculate the operating margin emission factor according to the selected method;

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

Calculation of Baseline Emission Factor EF_y

The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$):

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where,

W_{OM} = 75% weight for wind/solar energy projects and 50% for Hydro projects
W_{BM} = 25% weight for wind/solar energy projects and 50% for Hydro projects
EF_{OM,y} = calculated as described in Steps 3&4 above (tCO₂/MWh)
EF_{BM,y} = calculated as described in Steps 5 above (tCO₂/MWh)

Emission factor of Vietnamese national grid is calculated and published by Vietnam DNA, Department of Climate Change, Ministry of Natural Resources and Environment (Official Dispatch No. 263/BDKH dated 12 March 2020), including:

Variables	Values	Source
Operating Margin Emission Factor	0.8795 tCO ₂ /MWh	Ministry of Natural Resources and Environment Vietnam (Most Updated Figure) ⁶
Build Margin Emission Factor	0.9465 tCO ₂ /MWh	

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

$$\Rightarrow EF_{grid,CM,y} = 0.75 \times 0.8795 + 0.25 \times 0.9465 = 0.89625 \text{ (tCO}_2\text{/MWh)}$$

The validation team has reviewed the Vietnam Emission Factor Calculation report published by Vietnam DNA, and confirm the EF_{grid,CM,y} was correctly calculated according to Tool to calculate the emission factor for an electricity system' version 7 /B11/, using the most updated data up to the time of the validation report.

Project Emissions:

For most renewable power generation projects activities PE_y = 0. As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the CPA is not geo-thermal or solar thermal, project emissions are not applicable.

Hence PE_y = 0

Leakage Emissions:

No Leakage emissions are considered. The main emission potentially giving rise to leakage in the context of electrical sector projects is emission arising due to activities arising such as power plant construction and upstream emission from fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected.

Hence, LE_y = 0

Emission reduction (ER_y):

The project activity mainly reduces carbon dioxide through substitution of grid electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction ER_y by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

Hence in accordance with §43 of the applied methodology:

$$ER_y = B_y - P_y - LE_y$$

Where,

ER_y = Emission Reduction in year y (tCO₂/ year)
BE_y = Baseline emission in year y (tCO₂/ year)
PE_y = Project emission in year y (tCO₂/ year)
LE_y = Leakage emission in year y (tCO₂/ year)

This is complied with §122-126 VVS-PoA (Version 02.0), the validation team hereby confirms that:

⁶ Vietnam's Grid emission factor for Vietnam, 2020, [http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu.-xay-dung-he-so-phat-thai-\(EF\)-cua-luoi-dien-Viet-Nam-\(K%C3%A8m-CV-263/BDKH\).html](http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu.-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html)

	<p>(a) All assumptions and data used by the PP are listed in the generic CPA-DD, including their references and sources;</p> <p>(b) All documentation used by CME as the basis for assumptions and source of data is correctly quoted and interpreted in the generic CPA-DD;</p> <p>(c) All values used in the generic CPA-DD are considered reasonable in the context of the proposed generic CPA;</p> <p>(d) The baseline methodology AMS-I.D (Version 18.0) /B02/ and 'Tool to calculate the emission factor for an electricity system' version 7 /B11/ has been applied correctly to calculate project emissions, baseline emissions, leakages as well as emission reductions;</p> <p>(e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the generic CPA-DD.</p>
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D.2.3.5. Monitoring plan

Means of validation	DR, I		
Findings	CAR 16, CAR 17 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<u>Monitoring plan:</u>		
	The following parameters will be fixed ex-ante at PoA Level:		
	Parameters	Value	Assessment
	Operating Margin CO2 emission factor in year y ($EF_{grid,OM,y}$)	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Build Margin CO2 emission factor in year y ($EF_{grid,BM,y}$)	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Combined Margin CO2 emission factor in year y ($EF_{grid,CM,y}$)	0.89625 tCO ₂ /MWh	Calculated. Validation team has noted that the value of Combined grid emission factor is calculated according to version 07.0 of "Tool to calculate the emission factor for an electricity system", the following default weights are applied to solar power plants: wOM = 0.75 and wBM = 0.25. The calculation is correctly done thus acceptable to the validation team.
The following parameters will be monitored			
	Parameters	Assessment	
	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) ($EG_{PJ,y}$ or	The meter at the monitoring point is a bidirectional meter or electronic tri-vector meter. It will measure the total electricity exported to the Grid ($EG_{export,y}$) and total electricity imported from the Grid ($EG_{import,y}$) for internal consumption by the project. Therefore, the net electricity supplied by the project	

	<table border="1"> <tr> <td> $EG_{\text{facility},y}$ </td><td> <p>activity is the result of the parameters $EG_{\text{export},y}$ subtract to $EG_{\text{import},y}$.</p> $EG_{PJ,y} = EG_{\text{Expo-t}} - EG_{\text{Import}}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007⁷ and Decision No.25/2007/QD-BKHCN dated 05/10/2007⁸ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p> </td></tr> </table> <p>The monitoring plan as provided in the generic CPA includes information on objective, data recording, roles and responsibilities, data archiving and QA/QC procedures (meter calibration procedures). The arrangements described in the generic CPA are common practice for such kind of project activities. The data will be archived for two years after the crediting period.</p> <p>The monitoring plan content has been checked in the generic CPA and compared against the requirements of the monitoring methodology /B02/.</p> <p>The monitoring plan is assessed to be appropriate for the technology type installed. All means of implementing the monitoring plan are in line with the applied and monitoring methodology /B02/. The validation team has no doubts that the monitoring arrangements as described in the part II of PoA-DD /2/ will be implemented properly. This is in conformance with the requirements of §127 and §149 of VVS-PoA (version 02.0) /B01-a/.</p>	$EG_{\text{facility},y}$	<p>activity is the result of the parameters $EG_{\text{export},y}$ subtract to $EG_{\text{import},y}$.</p> $EG_{PJ,y} = EG_{\text{Expo-t}} - EG_{\text{Import}}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007⁷ and Decision No.25/2007/QD-BKHCN dated 05/10/2007⁸ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p>
$EG_{\text{facility},y}$	<p>activity is the result of the parameters $EG_{\text{export},y}$ subtract to $EG_{\text{import},y}$.</p> $EG_{PJ,y} = EG_{\text{Expo-t}} - EG_{\text{Import}}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007⁷ and Decision No.25/2007/QD-BKHCN dated 05/10/2007⁸ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p>		

D.2.4.Crediting period type and duration

Means of validation	DR, I
Findings	<i>CAR 18 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	The validation team reviewed the PoA-DD /2/ and found that the CME has defined the type and duration of all corresponding CPA is Renewable Crediting Period, and the duration is 7 years 0 month, renewable for 3 times maximum. The duration of crediting period of each CPA is limited to the end date of the PoA or the expected lifetime of the CPA whichever comes earlier

⁷ <https://vanbanphapluat.co/decision-no-13-2007-qd-bkhcn-promulgating-list-of-measurement-means-subject-to-expertise>

⁸ <https://vanbanphapluat.co/decision-no-25-2007-qd-bkhcn-procedure-and-cycles-of-verification-of-measurement-instruments>

Based on the above assessment, the validation team concludes that the crediting period type and duration is in conformance with the requirement of §135 PoA-VSS (Version 02.0) /B01-a/ and § 122 PS-PoA (Version 02.0) /B01-b/.

D.2.5. Eligibility criteria for inclusion of CPAs

No.	Eligibility criteria – n - Category/Required condition	Means of validation	Findings	Conclusion
1	<p><u>Category:</u></p> <p>Geographical boundaries of CPAs consistent with the geographical boundary of the PoA;</p> <p><u>Required condition:</u></p> <p>The geographical boundary of the CPA area is uniquely defined and within the boundary of Vietnam.</p>	<p>The geographical boundary of this CPA is within the geographical boundary of Vietnam.</p> <p>The criterion will be checked with GPS coordinates, maps as per feasibility studies, third party PLF report, land documents, commissioning certificates, permission from regulatory authorities or any other relevant document.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p>CL 03 was raised and satisfactorily closed.</p> <p>Refer to Appendix 4 for details</p>	<p>According to §124 (a), of the CDM project standard for programmes of activities, version 2.0, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA. The PoA boundary is set as Vietnam. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
2	<p><u>Category:</u></p> <p>Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and</p>	<p>CL 03 was raised and satisfactorily closed.</p> <p>Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to avoid double counting in future. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in</p>

		inclusion of the CPA into the registered PoA.		the PoA.
3	<p><u>Category:</u></p> <p>Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered;</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124(c) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to confirm that CPAs are neither registered as CDM project activities, or included in another registered PoAs, nor the project activities that have been deregistered. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
4	<p><u>Category:</u></p> <p>Specification of the technology/ measure</p> <p><u>Required condition:</u></p> <p>Technology for solar PV array use for CPAs consisting of either:</p> <ul style="list-style-type: none"> - Monocrystalline Solar Panels (Mono-Si) - Polycrystalline Solar Panels (p-Si) - Thin-Film: Amorphous Silicon Solar Panels (A-Si) - Concentrated PV Cell (CVP) <p>The Solar PV system will include:</p> <ul style="list-style-type: none"> -Mounting structures (potentially also including tracking system) -Junction box, distribution 	<p>This can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield CPA.</p> <p>The key specifications of relevant technology (solar PV, inverter) and their details or numerical values should be mentioned in real case specific CPA-DD. The technology shall have approval/ certification from the relevant designated authority. All the equipment of each CPA will be complied with applicable national/ international standards.</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.D (Version 18.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.D (Version 18.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for</p>

	<p>boxes and DC (direct current) cabling connecting modules with inverters</p> <ul style="list-style-type: none"> -Inverters -Production meter on AC (alternating current) inverter output side (integrated to inverter) -Data logger and/or gateway to internet (potentially integrated to inverter) -Transformers -Circuit breakers -System for control and monitoring -Grid utility meter <p>Evacuation system / grid connection system</p> <p>The capacity range Case: 2's entire system will be > 5MW and ≤ 15 MW.</p> <p>Electricity produced by the project activity will be monitored at the point it is exported to the grid.</p> <p>The technology shall have Approval / certification from the relevant designated authority.</p> <p>All the equipment of each CPA will be complying with applicable national/ international standards.</p>	<p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>		<p>inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
5	<p><u>Category:</u></p> <p>Conditions to check the start dates of CPAs;</p> <p><u>Required condition:</u></p> <p>The CPA only started after the start date of the PoA.</p> <p>The start date of the PoA is considered as 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & the relevant country's' DNAs.</p> <p>Therefore, start date of the CPA must be later than 24/07/2018</p>	<p>As per the PS-PoA version 02.0, no CPA may commence before the PoA start date, or exceed the PoA lifetime. The start date of this PoA is 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & relevant country's DNAs.</p> <p>For the starting date of the CPA the Purchase orders/contracts for equipment or construction/operation services or any other documents as stated in the Glossary of CDM terms will be</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (e) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to ensure no CPA may start before the PoA start date.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently</p>

		taken into account. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.		objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
6	<p>Category: Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents;</p> <p>Required condition: Project Activity will compromise of only AMS I.D, where it will:</p> <ol style="list-style-type: none"> 1.Be an installation of a Greenfield Plant 2.Have a plant capacity of ≤15MW 3.Only consist of Solar PV technology 4.Have all energy generated directed to the grid. 	<p>The CPA is required to fulfil the applicability criteria.</p> <p>Technology & installed capacity can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 15MW.</p> <p>The connectivity to the grid (if applicable) can be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfactorily closed .</p> <p>Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.D (Version 18.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.D (Version 18.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
7	<p>Category: Condition to ensure the CPA meet the requirement for demonstration of additionality.</p> <p>Required condition: Small scale CPAs shall be photovoltaic project and shall be automatic additional as per positive list state in the tool 'Demonstration of additionality of small-scale project activities' version 13.0, para 11.</p>	<p>The small scale CPA will be additional as per positive stated in the tool "Demonstration of additionality of small scale project activities".</p> <p>Technology & installed capacity will be indicated in inclusion contract and can be checked via Feasibility study report or the offer from the party providing the equipment /</p>	<p>CL 03 was raised and satisfactorily closed .</p> <p>Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs §124 (g) of the CDM project standard for programmes activities, version 2.0.</p> <p>All CPAs shall be demonstrated at the CPA level and provided they met this eligibility criteria of the PoA. This is adequately prescribed in section C of the PoA-DD. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion</p>

	Installed capacity to be confirmed by Inclusion Contract and documentary evidence; CME carries out further plausibility checks based on monitoring data	construction / operation services proving that the CPA is greenfield solar power plant with capacity \leq 15MW. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.		– category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
8	<p><u>Category</u></p> <p>Conditions related to undertaking local stakeholder consultation and environmental impact analysis;</p> <p><u>Required condition:</u></p> <p>The CPA shall conduct a local stakeholder consultation and environmental impact assessment according to local regulation. This will be reviewed by CME at CPA level</p>	<p>Local stakeholder consultation and environmental impact analysis will be check at CPA level.</p> <p>If host country regulation required, EIA Report / clearance from Government agency if applicable will be provided as evident documents.</p> <p>Minutes of meeting, attendance records, invitation letters, etc. will be provided as means of prove for the local stakeholder consultation.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>As per the PoA DD /02/, the local Stakeholder Consultation (LSC) and environmental impact assessment are on CPA Level. Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (i) of the CDM project standard for programmes of activities, version 2.0. The referenced documents are assessed to be appropriate to show fulfilment of the criterion.</p> <p>Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
9	<p><u>Category:</u></p> <p>Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.</p> <p><u>Required condition:</u></p> <p>The CPA shall not involve funding from Annex I parties that results in a diversion of official development assistance.</p>	<p>Undertaking from CPA Owner or CPA Implementer will be provided. The CME will check this information to ensure no funding from Annex I parties.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for</p>

				the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
10	<p>Category:</p> <p>Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off grid), and where applicable, distribution mechanisms (e.g. direct installation);</p> <p>Required condition:</p> <p>The CPA supplies electricity to the national/regional grid or uses national grid for captive or third-party sale</p>	<p>The CPA will supply electricity to national/regional grid or uses national grid for captive or third-party sale.</p> <p>This eligibility criteria shall be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (k) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
11	<p>Category:</p> <p>CPA remain within SSC threshold</p> <p>Required condition:</p> <p>Each CPA will have a maximum capacity of 15MW per year throughout the 'PA's crediting period</p>	<p>The CPA follows AMS-I.D, Version 18.0, CPA is type I renewable energy project, each CPA under the PoA will have maximum output capacity of 15MW.</p> <p>The eligibility criteria include a criterion on the which states that each CPA will have a maximum capacity of 15MW per year throughout the CPA's crediting period.</p> <p>This criterion will be stated in the inclusion and verified by feasibility study report</p>	<p><i>CL 03 was raised and satisfactorily closed . Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (m) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to</p>

		<p>or the offer from the party providing the equipment / construction / operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>		<p>meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
12	<p>Category:</p> <p>Condition of debundling check</p> <p>Required condition:</p> <p>Small-scale CPA is not debundled part or larger activity</p> <p>CPA owner confirms by Inclusion Contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA</p>	<p>Small-scale CPA is not debundled part of a larger activity.</p> <p>The CPA owner needs to confirm in the inclusion contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA.</p> <p>This will be verified in the inclusion contract and undertaking from CPA owner or CPA implementer.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed</i></p> <p><i>Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (n) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

Case 3 - Small-Scale Captive Consumption CPAs (SCC)

D.2.1. General description of generic CPA

Means of validation	DR, I
Findings	<i>CAR 10, CAR 11 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>After review of the PoA-DD /2/ the validation team confirms that a typical CPA will involve installation and operation of a renewable energy solar photovoltaic power plant/unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The CPA includes renewable energy generation technologies (solar PV) that supply electricity to users for captive use/mini grid.</p> <p>This was further confirmed during the off-site visit interviews with the representatives of the CME and document reviews.</p> <p>The description provided for a generic CPA in part II of PoA-DD /2/ is in conformance to the requirements of §90 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.2. Selection of methodologies and standardized baselines

D.2.2.1. Deviation from methodologies and/or methodological tools

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2.2.2. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	N/A
Conclusion	No clarification on applicability of methodology and or tools to the proposed PoA has been issued.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1. General

Means of validation	DR, I		
Findings	CAR 12, CAR 13 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<p>The methodology applied is AMS-I.F (version 3.0) /B02/. It is applicable renewable energy based power plant which supply electricity to users. By means of interviews with representatives of CME and document check this could be confirmed.</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website /B15/. The applied version of the baseline and monitoring methodology /B02/ is valid at the time of submission for stakeholder consultation and also request for registration. All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled.</p>		
	Applicability criteria of the methodology (AMS-I.F), Version 3.0	Justification in the PoA-DD	Determination by the validation team
	<p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</p> <p>(a) A national or a regional grid (grid hereafter);</p> <p>(b) Fossil fuel fired captive power plant;</p> <p>(c) A carbon intensive</p>	<p>Yes</p> <p>The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options</p> <p>a) "Supplying electricity to a national or a regional grid" and</p> <p>f) A carbon intensive mini-grid.</p> <p>Hence the CPA under PoA meets the given applicability criterion.Yes</p> <p><u>The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options will displace electricity from an electricity distribution system that is or would have been supplied by</u></p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 15MW that displace electricity from (a) national/ regional grid; or (b) fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid; or (c) supplies to a carbon intensive mini-grid can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS,</p>

	mini-grid.	<p><u>at least least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</u></p> <p><u>(a) Supplying electricity to a</u> <u>A national or a regional grid (grid hereafter); and</u> <u>/or</u> <u>(b) Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid, in compliance with footnote 1 of AMS-I.F version 3.0 methodology / footnote 11 of this PDD,</u> <u>(c) A carbon intensive mini-grid</u></p> <p><u>Hence the CPA under PoA meets the given applicability criterion.</u></p>	Equipment contract, PPA, <u>inclusion contract</u> ; etc)
	Illustration of respective situations under which each of the methodology (AMS-I.D., AMS-I.F. and AMS-I.A.2) applies is included in Table 3.	<p>Yes.</p> <p>The 2nd option of Table 1⁹ of AMS I.F. Version 3, is applicable when CPA under PoA Project displaces grid electricity consumption (e.g. grid import) and/or captive</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was</p>

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	Project type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

		fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid).	included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; (b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m ² ; (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m ² .	Not applicable. This PoA does not involve Hydro Power, hence this criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	This methodology is applicable for project activities that: (a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition; (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).	Yes Any CPA under this PoA is installation of a new grid connected renewable energy power plant (solar PV) at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence the first criterion is applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive

			mini-grid can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Not applicable The CPA under the PoA will be a new captive consumption renewable energy plant (Solar PV) and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	Not applicable The CPA under PoA will be Greenfield project and there is no existing power generation facility at the site. Hence the criteria is not applicable to the PoA or CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	If the unit added has both renewable and non-	Not applicable CPA under PoA will	The applied methodology is correctly quoted and is

	renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	have capacity within eligibility limit of 15 MW and will involve only renewable component (solar PV). Unit does not co-fire fossil fuels. Hence the criterion is not applicable to the CPA.	identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Combined heat and power (co-generation) systems are not eligible under this category.	Not applicable CPAs under this PoA is purely Solar PV, therefore this criterion is not applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	If electricity and/or steam/heat produced by the project activity is delivered to a third party, i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that	Yes If energy produced by the project activity is delivered to a third party, a contract between supplier and consumer will be entered into to ensure no double counting of emission reductions.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This will be crossed check by at CPA level by reviewing supporting documents (PPA, electricity supply contract

	there is no double counting of emission reductions.		etc)
	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not applicable. The PoA is a renewable energy power project which involves solar PV and is not a biomass project. Hence the criteria is not applicable to the PoA or CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 3: Small-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 15MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)

D.2.3.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	<i>CAR 14 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>As per §17 of the applied methodology AMS-I.F (version 3.0), the boundary of a typical CPA under this PoA confines to "<i>The spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system. In the case of electricity generated and supplied to distributed users (e.g. residential users) via mini/isolated grid(s) the project boundary may be confined to physical, geographical site of renewable generating units.</i></p> <p><i>The boundary also extends to the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to</i>".</p> <p>Using a diagrammatic approach, the CPA boundary has been correctly identified in section B.3 of Part II of PoA-DD /02/.</p> <p>Validation team also confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered appropriately. This is in conformance with §105 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.3. Baseline scenario

Means of validation	DR, I
Findings	<i>CAR 15 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD /2/.</p> <p>As prescribed by §18 of the methodology AMS-I.F (version 3.0), "<i>the baseline emissions for a mini-grid system where all generators use exclusively fuel oil and/or diesel fuel, the baseline emissions is the annual electricity generated by the</i></p>

	<p><i>renewable energy unit times an emission factor for a modern diesel generating unit of the relevant capacity operating at optimal load as given in Table 2”.</i></p> <p>Also as per §19 of the methodology, “<i>Baseline emissions for other systems are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor</i>”.</p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of the applied methodology /B02/ and §111 of VVS-PoA (version 02.0) /B01-a/.</p>
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D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	DR, I
Findings	-
Conclusion	<p>The equations and choices provided in the applied methodology, AMS-I.F (version 3.0) /B02/ are correctly quoted in the PoA-DD /2/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology.</p> <p>Baseline Emissions:</p> <p>As per §18 of AMS-I.F (version 03.0), for a mini-grid system where all generators use exclusively fuel oil and/or diesel fuel, the baseline emissions is the annual electricity generated by the renewable energy unit times an emission factor for a modern diesel generating unit of the relevant capacity operating at optimal load as table 2 of AMS-I.F (version 03.0).</p> <p>As per §19 of AMS-I.F (version 03.0), Baseline emissions for other systems are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.</p> <p>The baseline emissions are calculated as follows:</p> $BE_y = EG_{BL,y} \times EF_{CO2,y}$ <p>Where,</p> <p>BE_y = Baseline Emissions in year y (t CO₂)</p> <p>$EG_{BL,y}$ = Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh)</p> <p>$EF_{CO2,y}$ = Emission factor (t CO₂/MWh)</p> <p>Based on scenario of CPA, the below relevant option need to be select for calculation of emission factor</p> <ol style="list-style-type: none"> 1. Emission factor of a grid shall be calculated as per the procedures provided in AMS-I.D i.e., by using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO₂/MWh) 2. For a mini-grid system other than described in §18 above, the baseline emission factor shall be determined as per the weighted average emissions for the current generation mix following the procedure provided in AMS-I.D 3. Emission factor for captive electricity generation shall be calculated as per the procedures described in the latest version of the methodological tool “Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation” <p>As per §20 of methodology, for project activities that displace grid electricity and fossil fuel fired on-site captive electricity, the baseline emission factor should reflect the emissions intensity of the grid and the captive power plant in the baseline scenario i.e. the weighted average emission factor for the displaced electricity is calculated using values based on the historical, prior three years ratios of electricity from captive plants and the grid. For new facilities, the most conservative (lowest) of the emission factor for the two power sources should be used.</p> <p>As per option 1 above, the emission factor is calculated as combined margin</p>

emission factor as per methodology AMS I.D version 18 which further refers "Tool to calculate the emission factor for an electricity system, version 07" /B11/.

Out of the two options provided by the methodology for the calculation of emission factor, CME has chosen Option (a), i.e. combined margin approach (CM), to calculate the grid emission factor as per the 'Tool to calculate the emission factor for an electricity system' version 7.0 /B11/ since data is available from an official source.

The baseline emission factor is calculated using the combined margin approach as described in the following steps:

STEP 1: Identify the relevant electricity systems;

STEP 2: Determine boundary of calculation in the project electricity system

STEP 3: Select a method to determine the operating margin (OM);

STEP 4: Calculate the operating margin emission factor according to the selected method;

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

Calculation of Baseline Emission Factor EF_y

The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$):

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where,

w_{OM} = 75% weight for wind/solar energy projects and 50% for Hydro projects

w_{BM} = 25% weight for wind/solar energy projects and 50% for Hydro projects

$EF_{OM,y}$ = calculated as described in Steps 3&4 above (tCO₂/MWh)

$EF_{BM,y}$ = calculated as described in Steps 5 above (tCO₂/MWh)

Emission factor of Vietnamese national grid is calculated and published by Vietnam DNA, Department of Climate Change, Ministry of Natural Resources and Environment (Official Dispatch No. 263/BDKH dated 12 March 2020), including:

Variables	Values	Source
Operating Margin Emission Factor	0.8795 tCO ₂ /MWh	Ministry of Natural Resources and Environment Vietnam (Most Updated Figure) ¹⁰
Build Margin Emission Factor	0.9465 tCO ₂ /MWh	

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

$$\Rightarrow EF_{grid,CM,y} = 0.75 \times 0.8795 + 0.25 \times 0.9465 = 0.89625 \text{ (tCO}_2\text{/MWh)}$$

The validation team has reviewed the Vietnam Emission Factor Calculation report published by Vietnam DNA, and confirm the $EF_{grid,CM,y}$ was correctly calculated according to Tool to calculate the emission factor for an electricity system' version 7 /B11/, using the most updated data up to the time of the validation report.

For option 2 of emission factor, in case of CPA involving a mini-grid system other than described in paragraph 18 of AMS I.F version 03, the baseline emission factor shall be determined as per the weighted average emissions for the current generation mix following the procedure provided in AMS-I.D. The value of this parameter will be determined based on specific mini grid involved in the CPA.

For option 3 of emission factor, latest version of the methodological tool

¹⁰ Vietnam's Grid emission factor for Vietnam, 2020, [http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu-xay-dung-he-so-phat-thai-\(EF\)-cua-luoi-dien-Viet-Nam-\(K%C3%A8m-CV-263/BDKH\).html](http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html)

"Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 032 is referred. As per tool, below scenario CB is applicable.

Scenario CB: *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.*~~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;~~

Determination of the emission factor for electricity generation for Scenario CB:
~~the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.~~~~Electricity consumption from an off-grid captive power plant.~~

As per paragraph 31 of the TOOL 5, case C.III was selected as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.

- Scenario A: Emission factor for electricity generation from grid which determined above for option 1: 0.89625 tCO₂/MWh.

- Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool 5 a value of 0.4 tCO₂/MWh as the electricity consumption source is a baseline electricity consumption source.

Hence, the conservative emission factor chosen for option 3 would be 0.4 tCO₂/MWh. This will be fixed for the whole crediting period.

~~CPA selects option B2 (b) as per para 28 of tool a value of 0.4 tCO₂/MWh as the electricity consumption source is a baseline electricity consumption source.~~

Project Emissions:

For most renewable power generation projects activities PE_y = 0. As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the CPA is not geo-thermal or solar thermal, project emissions are not applicable.

Hence PE_y = 0

Leakage Emissions:

No Leakage emissions are considered. The main emission potentially giving rise to leakage in the context of electrical sector projects is emission arising due to activities arising such as power plant construction and upstream emission from fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected.

Hence, LE_y = 0

Emission reduction (ER_y):

The project activity mainly reduces carbon dioxide through substitution of electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction ER_y by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

$$ER_y = B_y - P_y - LE_y$$

Where,

ER_y = Emission Reduction in year y (tCO₂/year)

BE_y = Baseline emission in year y (tCO₂/year)

PE_y = Project emissions in year y (tCO₂/year)

	LE_y = Leakage emission in year y (tCO ₂ /year)
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D.2.3.5. Monitoring plan

Means of validation	DR, I		
Findings	CAR 16, CAR 17 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<u>Monitoring plan:</u>		
	The following parameters will be fixed ex-ante at PoA Level:		
	Parameters	Value	Assessment
	Operating Margin CO2 emission factor in year y (EF _{grid,OM,y})	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Build Margin CO2 emission factor in year y (EF _{grid,BM,y})	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Combined Margin CO2 emission factor in year y (EF _{grid,CM,y})	0.89625 tCO ₂ /MWh	Calculated. Validation team has noted that the value of Combined grid emission factor is calculated according to version 07.0 of "Tool to calculate the emission factor for an electricity system", the following default weights are applied to solar power plants: wOM = 0.75 and wBM = 0.25. The calculation is correctly done thus acceptable to the validation team.
	Emission factors for diesel generator systems (EF _{diesel generation})	This will be decided at CPA level based on default values in Table 2 of AMS-I.F Version 03.	This is based on default values as per Table 2 of AMS I.F Version 03 The checked and confirmed by the validation team.
Emission factors for captive electricity generation (<u>users also connect to the grid</u>) (EF _{captive})	0.4 tCO ₂ /MWh	<u>As per paragraph 31 of the TOOL 5, case C.III was selected as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.</u> <u>- Scenario A: Emission factor for electricity generation from grid which</u>	

determined at 0.89625 tCO₂/MWh.

- Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool 5 a value of 0.4 tCO₂/MWh as the electricity consumption source is a baseline electricity consumption source.

Hence, the conservative emission factor chosen would be 0.4 tCO₂/MWh. This is based on Conservative default value as per Scenario B, option B2 (b) of tool Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". Version 03.0. This was checked and confirmed by the validation team

The following parameters will be monitored

Parameters	Assessment
Quantity of net electricity displaced in year y (MWh/yr) (EG _{BL,y})	<p>The meter at the monitoring point is a Electronic Energy meter. It will measure the total electricity produced by the system.</p> <p>One check meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the end-user will jointly calculate a conservative estimate of power supplied.</p> <p>The data of electricity supplied will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007¹¹ and Decision No.25/2007/QD-BKHCN dated 05/10/2007¹² issued by Ministry of Science and Technology).</p>

¹¹ <https://vanbanphapluat.co/decision-no-13-2007-qd-bkhn-promulgating-list-of-measurement-means-subject-to-expertise>

¹² <https://vanbanphapluat.co/decision-no-25-2007-qd-bkhn-procedure-and-cycles-of-verification-of-measurement-instruments>

		The validation team deems that appropriate.
	<p>The monitoring plan as provided in the generic CPA includes information on objective, data recording, roles and responsibilities, data archiving and QA/QC procedures (meter calibration procedures). The arrangements described in the generic CPA are common practice for such kind of project activities. The data will be archived for two years after the crediting period.</p>	
	<p>The monitoring plan content has been checked in the generic CPA and compared against the requirements of the monitoring methodology /B02/.</p>	
	<p>The monitoring plan is assessed to be appropriate for the technology type installed. All means of implementing the monitoring plan are in line with the applied and monitoring methodology /B02/. The validation team has no doubts that the monitoring arrangements as described in the part II of PoA-DD /2/ will be implemented properly. This is in conformance with the requirements of §127 and §149 of VVS-PoA (version 02.0) /B01-a/.</p>	

D.2.4.Crediting period type and duration

Means of validation	DR, I
Findings	<i>CAR 18 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The validation team reviewed the PoA-DD /2/ and found that the CME has defined the type and duration of all corresponding CPA is Renewable Crediting Period, and the duration is 7 years 0 month, renewable for 3 times maximum. The duration of crediting period of each CPA is limited to the end date of the PoA or the expected lifetime of the CPA whichever comes earlier</p> <p>Based on the above assessment, the validation team concludes that the crediting period type and duration is in conformance with the requirement of §135 PoA-VSS (Version 02.0) /B01-a/ and § 122 PS-PoA (Version 02.0) /B01-b/.</p>

D.2.5.Eligibility criteria for inclusion of CPAs

No.	Eligibility criteria – n - Category/Required condition	Means of validation	Findings	Conclusion
1	<p><u>Category:</u></p> <p>Geographical boundaries of CPAs consistent with the geographical boundary of the PoA;</p> <p><u>Required condition:</u></p> <p>The geographical boundary of the CPA area is uniquely defined and within the boundary of Vietnam.</p>	<p>The geographical boundary of this CPA is within the geographical boundary of Vietnam.</p> <p>The criterion will be checked with GPS coordinates, maps as per feasibility studies, third party PLF report, land documents, commissioning certificates, permission from regulatory authorities or any other relevant document.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>According to §124 (a), of the CDM project standard for programmes of activities, version 2.0, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA. The PoA boundary is set as Vietnam. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in</p>

				the PoA.
2	<p><u>Category:</u></p> <p>Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to avoid double counting in future. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
3	<p><u>Category:</u></p> <p>Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered;</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124(c) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to confirm that CPAs are neither registered as CDM project activities, or included in another registered PoAs, nor the project activities that have been deregistered. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
4	<p><u>Category:</u></p> <p>Specification of the technology/</p>	<p>This can be checked via Feasibility study report or the offer from the</p>	<p><i>CL 03 was raised</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline</p>

<p>measure</p> <p>Required condition:</p> <p>Technology for solar PV array use for CPAs consisting of either:</p> <ul style="list-style-type: none"> - Monocrystalline Solar Panels (Mono-SI) - Polycrystalline Solar Panels (p-Si) - Thin-Film: Amorphous Silicon Solar Panels (A-SI) - Concentrated PV Cell (CVP) <p>The Solar PV system will include:</p> <ul style="list-style-type: none"> -Mounting structures (potentially also including tracking system) -Junction box, distribution boxes and DC (direct current) cabling connecting modules with inverters -Inverters -Production meter on AC (alternating current) inverter output side (integrated to inverter) -Data logger and/or gateway to internet (potentially integrated to inverter) -Transformers -Circuit breakers -System for control and monitoring -Grid utility meter <p>Evacuation system / grid connection system</p> <p>The capacity range of Case 3's entire system will be > 5MW and ≤ 15 MW.</p> <p>Electricity produced by the project activity will be monitored at the point it is exported to the grid.</p> <p>The technology shall have Approval / certification from the relevant designated authority.</p> <p>All the equipment of each CPA will be complying with applicable national/ international standards.</p>	<p>party providing the equipment / construction / operation services proving that the CPA is greenfield CPA.</p> <p>The key specifications of relevant technology (solar PV, inverter) and their details or numerical values should be mentioned in real case specific CPA-DD. The technology shall have approval/ certification from the relevant designated authority. All the equipment of each CPA will be complied with applicable national/ international standards.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.F (Version 03.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.F (Version 03.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
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5	<p>Category: Conditions to check the start dates of CPAs;</p> <p>Required condition: The CPA only started after the start date of the PoA. The start date of the PoA is considered as 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & the relevant country's DNAs.</p> <p>Therefore, start date of the CPA must be later than 24/07/2018</p>	<p>As per the PS-PoA version 02.0, no CPA may commence before the PoA start date, or exceed the PoA lifetime. The start date of this PoA is 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & relevant country's DNAs.</p> <p>For the starting date of the CPA the Purchase orders/contracts for equipment or construction/operation services or any other documents as stated in the Glossary of CDM terms will be taken into account.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (e) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to ensure no CPA may start before the PoA start date.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
6	<p>Category: Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents;</p> <p>Required condition: Project Activity will compromise of only AMS I.F, where it will:</p> <p>1.Be an installation of a Greenfield Plant</p> <p>2.Have a plant capacity of ≤15MW</p> <p>3.Only consist of Solar PV technology</p> <p><u>4.Users would have been supplied electricity from one or more sources listed below:</u></p> <p><u>(a)A national or a regional grid (grid hereafter);</u></p> <p><u>(b)Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid in the project site, as per footnote 1 of AMS-I.F ver 3.0</u></p>	<p>The CPA is required to fulfil the applicability criteria.</p> <p>Technology & installed capacity can be checked via Feasibility study report or the offer from the party providing the equipment / <u>purchase order/ work order/</u> construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 15MW.</p> <p>The connectivity to the grid (if applicable)/ <u>user electricity consumption sources</u> can be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and</p>	<p>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.F (Version 3.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.F (Version 3.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

	<p>(c)A carbon intensive mini-grid. 4.Connect to isolated grid</p> <p>5.At least one fossil-fuel fired generation source in the isolated grid</p> <p>6.Project classified as “generator”</p> <p>7.PV generation monitored by grid meter, and data transmitted to CME</p>	inclusion of the CPA.		
7	<p><u>Category:</u></p> <p>Condition to ensure the CPA meet the requirement for demonstration of additionality.</p> <p><u>Required condition:</u></p> <p>Small scale CPAs shall be photovoltaic project and shall be automatic additional as per positive list state in the tool ‘Demonstration of additionality of small-scale project activities’ version 13.0, para 11.</p> <p>Installed capacity to be confirmed by Inclusion Contract and documentary evidence; CME carries out further plausibility checks based on monitoring data</p>	<p>The small scale CPA will be additional as per positive stated in the tool “Demonstration of additionality of small scale project activities”.</p> <p>Technology & installed capacity will be indicated in inclusion contract and can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 15MW.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs §124 (g) of the CDM project standard for programmes activities, version 2.0.</p> <p>All CPAs shall be demonstrated at the CPA level and provided they met this eligibility criteria of the PoA. This is adequately prescribed in section C of the PoA-DD. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
8	<p><u>Category:</u></p> <p>Conditions related to undertaking local stakeholder consultation and environmental impact analysis;</p> <p><u>Required condition:</u></p> <p>The CPA shall conduct a local stakeholder consultation and environmental impact assessment according to local regulation. This will be reviewed by CME at CPA level</p>	<p>Local stakeholder consultation and environmental impact analysis will be check at CPA level.</p> <p>If host country regulation required, EIA Report / clearance from Government agency if applicable will be provided as evident documents.</p> <p>Minutes of meeting, attendance records, invitation letters, etc. will be provided as means of prove for the local stakeholder</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>As per the PoA DD /02/, the local Stakeholder Consultation (LSC) and environmental impact assessment are on CPA Level. Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (i) of the CDM project standard for programmes of activities, version 2.0. The referenced documents are assessed to be appropriate to show fulfilment of the criterion.</p> <p>Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions</p>

		consultation. Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.		provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
9	<p><u>Category:</u></p> <p>Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.</p> <p><u>Required condition:</u></p> <p>The CPA shall not involve funding from Annex I parties that results in a diversion of official development assistance.</p>	<p>Undertaking from CPA Owner or CPA Implementer will be provided. The CME will check this information to ensure no funding from Annex I parties.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
10	<p><u>Category:</u></p> <p>Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off grid), and where applicable, distribution mechanisms (e.g. direct installation);</p> <p><u>Required condition:</u></p> <p>The CPA supplies electricity to the national/regional grid or uses national grid for captive or third-party sale</p>	<p>The CPA will supply electricity to national/regional grid or uses national grid for captive or third-party sale.</p> <p>This eligibility criteria shall be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (k) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to</p>

		assessment and inclusion of the CPA.		permit the assessment of the inclusion of corresponding CPAs in the PoA.
11	<p>Category:</p> <p>CPA remain within SSC threshold</p> <p>Required condition:</p> <p>Each CPA will have a maximum capacity of 15MW per year throughout the 'PA's crediting period</p>	<p>The CPA follows AMS-I.F, Version 3.0, CPA is type I renewable energy project, each CPA under the PoA will have maximum output capacity of 15MW.</p> <p>The eligibility criteria include a criterion on the which states that each CPA will have a maximum capacity of 15MW per year throughout the CPA's crediting period.</p> <p>This criterion will be stated in the inclusion and verified by feasibility study report or the offer from the party providing the equipment / construction / operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (m) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
12	<p>Category:</p> <p>Condition of debundling check</p> <p>Required condition:</p> <p>Small-scale CPA is not debundled part or larger activity</p> <p>CPA owner confirms by Inclusion Contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA</p>	<p>Small-scale CPA is not debundled part of a larger activity.</p> <p>The CPA owner needs to confirm in the inclusion contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA.</p> <p>This will be verified in the inclusion contract and undertaking from CPA owner or CPA implementer.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (n) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in</p>

				the PoA.
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Case-4 - Micro-Scale Grid Connected CPAs (MGC)

D.2.1. General description of generic CPA

Means of validation	DR, I
Findings	<i>CAR 10, CAR 11 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>After review of the PoA-DD /2/ the validation team confirms that a typical CPA will involve installation and operation of a new grid-connected solar PV power plant/ unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The electricity generated from CPA would be exported to the host country's national grid by displacing the consumption of electricity from the grid electricity distribution system.</p> <p>This was further confirmed during the off-site visit interviews with the representatives of the CME and document reviews.</p> <p>The description provided for a generic CPA in part II of PoA-DD /2/ is in conformance to the requirements of §90 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.2. Selection of methodologies and standardized baselines

D.2.2.1. Deviation from methodologies and/or methodological tools

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2.2.2. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	N/A
Conclusion	No clarification on applicability of methodology and or tools to the proposed PoA has been issued.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1. General

Means of validation	DR, I		
Findings	<i>CAR 12, CAR 13 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>		
Conclusion	<p>The methodology applied is AMS-I.D (version 18.0) /B02/. It is applicable to Greenfield grid connected renewable energy based power plant. By means of interviews with representatives of CME and document check this could be confirmed.</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website /B15/. The applied version of the baseline and monitoring methodology /B02/ is valid at the time of submission for stakeholder consultation and also request for registration. All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled (see table below)</p>		
	Applicability criteria of the methodology (AMS-I.D), Version 18.0	Justification in the PoA-DD	Determination by the validation team
	This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:	Yes The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable.

	<p>(a) Supplying electricity to a national or a regional grid; or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p>	<p>(a) "Supplying electricity to a national or a regional grid" and /or</p> <p>(b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.</p> <p>Hence the CPA under PoA meets the given applicability criterion.</p>	<p>This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 5MW can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>Illustration of respective situations under which each of the methodology (i.e. "AMS-I.D.: Grid connected renewable electricity generation", "AMS-I.F.: Renewable electricity generation for captive use and mini-grid" and "AMS-I.A.: Electricity generation by the user) applies is included below.</p>	<p>Yes</p> <p>The 1st option of Table 1¹³ of AMS I.D. Version 18, 'Methodology key elements', is applicable when CPA under PoA supplies electricity to a national/regional grid and/or 3rd option is applicable when CPA under PoA supplies electricity to an identified consumer via national/regional grid through contractual arrangement.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 5MW can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>The methodology is applicable under the</p>	<p>Yes.</p> <p>The proposed CPA</p>	<p>The applied methodology is correctly quoted and is</p>

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	Project type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid ¹¹ system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

	<p>following conditions:</p> <p>a)Install a Greenfield plant;</p> <p>b)Involve a capacity addition in (an) existing plant(s);</p> <p>c)Involve a retrofit of (an) existing plant(s);</p> <p>d)Involve a rehabilitation of (an) existing plant(s)/unit(s); or</p> <p>e)Involve a replacement of (an) existing plant(s).</p>	<p>under PoA will be an installation of a new grid connected or isolated grid connected renewable energy power plant (using solar PV technology) and hence the first condition is met.</p>	<p>identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 5\text{MW}$ can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <p>a)The project activity is implemented in an existing reservoir with no change in the volume of reservoir.</p> <p>b)The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2 ;</p> <p>The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2 .</p>	<p>Not applicable.</p> <p>This PoA does not involve Hydro Power, hence this criterion is not applicable to the CPA.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant $\leq 5\text{MW}$ can be included in this case. So this is not applicable.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not</p>	<p>Not applicable</p> <p>This PoA is for Solar Power, and will not involve any co-generation, hence this criterion is not applicable.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield</p>

	exceed the limit of 15 MW.		grid-connected PV plant \leq 5MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Combined heat and power (co-generation) systems are not eligible under this category.	Not applicable This PoA does not involve combined heat and power (co-generation) power plants/systems and hence this criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant \leq 5MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Not applicable The project activity involves the addition of renewable energy generation units not exceeding the limit of 15 MW to an existing renewable power generation facility.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant \leq 5MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not	Not applicable The CPA under PoA will be a new grid connected renewable energy plant (Solar PV) and not a retrofit, replacement or capacity additions and therefore this criterion is	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included

	exceed the limit of 15 MW	not applicable to the CPA.	also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 5 MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	Not applicable This PoA is for Solar Power, and will not involve the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category., hence this criterion is not applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 5 MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not applicable This PoA is for Solar Power, and will not involve the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category., hence this criterion is not applicable.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This criteria was included also in the CPA inclusion criteria for case 4: Micro-Scale Grid Connected CPAs. Only greenfield grid-connected PV plant ≤ 5 MW can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)

			etc)
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D.2.3.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	<i>CAR 14 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>As per §18 of the applied methodology AMS-I.D (version 18.0), the boundary of a typical CPA under this PoA confines to “the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”. Using a diagrammatic approach, the CPA boundary has been correctly identified in section B.3 of Part II of PoA-DD /2/.</p> <p>Validation team also confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered appropriately. This is in conformance with §105 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.3. Baseline scenario

Means of validation	DR, I
Findings	<i>CAR 15 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD /2/.</p> <p>As prescribed by §19 of the methodology AMS-I.D (version 18.0), the baseline scenario is generalised by the following statement:</p> <p>“If the project activity is the installation of a Greenfield power plant, the baseline scenario is the following:</p> <p>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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</p> <p>As defined in the PoA, the CPAs will involve setting up of renewable energy technology to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of electricity would have been supplied by the Vietnam National grid, which is fed majorly based on fossil fuel fired plants.</p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of the applied methodology /B02/ and §111 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	DR, I
Findings	-
Conclusion	<p>The equations and choices provided in the applied methodology, AMS-I.D (version 18.0) /B02/ are correctly quoted in the PoA-DD /2/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology.</p> <p>Baseline Emissions:</p> <p>The baseline emission calculation for the CPAs are attributable to the CO₂ Emission that could have been produced by the fossil fuel based power plants in absence of the proposed project activity. Therefore, the amount electricity supplied to the Vietnam National grid will be multiplied by the grid emission factor of Vietnam National grid to calculate the baseline emissions reduced by the proposed project activity.</p> $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$

Where,

BE_y = Baseline Emissions in year y (t CO₂)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

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

As the CPA involves installation of greenfield power plants, in accordance with § 26 of the applied methodology:

$$EG_{PJ,y} = EG_{facility,y}$$

Where,

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

As per the applied methodology, Combined margin approach (CM) has been chosen to calculate the grid emission factor as per the 'Tool to calculate the emission factor for an electricity system' version 7 /B11/ since data is available from an official source.

The baseline emission factor is calculated using the combined margin approach as described in the following steps:

STEP 1: Identify the relevant electricity systems;

STEP 2: Determine boundary of calculation in the project electricity system

STEP 3: Select a method to determine the operating margin (OM);

STEP 4: Calculate the operating margin emission factor according to the selected method;

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

Calculation of Baseline Emission Factor EF_y

The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$):

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where,

w_{OM} = 75% weight for wind/solar energy projects and 50% for Hydro projects

w_{BM} = 25% weight for wind/solar energy projects and 50% for Hydro projects

$EF_{OM,y}$ = calculated as described in Steps 3&4 above (tCO₂/MWh)

$EF_{BM,y}$ = calculated as described in Steps 5 above (tCO₂/MWh)

Emission factor of Vietnamese national grid is calculated and published by Vietnam DNA, Department of Climate Change, Ministry of Natural Resources and Environment (Official Dispatch No. 263/BDKH dated 12 March 2020), including:

Variables	Values	Source
Operating Margin	0.8795 tCO ₂ /MWh	Ministry of Natural

Emission Factor		Resources and Environment Vietnam (Most Updated Figure) ¹⁴
Build Margin Emission Factor	0.9465 tCO ₂ /MWh	

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

$$\Rightarrow EF_{grid,CM,y} = 0.75 \times 0.8795 + 0.25 \times 0.9465 = 0.89625 \text{ (tCO}_2\text{/MWh)}$$

The validation team has reviewed the Vietnam Emission Factor Calculation report published by Vietnam DNA, and confirm the $EF_{grid,CM,y}$ was correctly calculated according to Tool to calculate the emission factor for an electricity system' version 7 /B11/, using the most updated data up to the time of the validation report.

Project Emissions:

For most renewable power generation projects activities $PE_y = 0$. As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the CPA is not geo-thermal or solar thermal, project emissions are not applicable.

Hence $PE_y = 0$

Leakage Emissions:

No Leakage emissions are considered. The main emission potentially giving rise to leakage in the context of electrical sector projects is emission arising due to activities arising such as power plant construction and upstream emission from fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected.

Hence, $LE_y = 0$

Emission reduction (ER_y):

The project activity mainly reduces carbon dioxide through substitution of grid electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction ER_y by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

Hence in accordance with §43 of the applied methodology:

$$ER_y = B_y - P_y - LE_y$$

Where,

ER_y = Emission Reduction in year y (tCO₂/ year)

BE_y = Baseline emission in year y (tCO₂/ year)

PE_y = Project emission in year y (tCO₂/ year)

LE_y = Leakage emission in year y (tCO₂/ year)

This is complied with §122-126 VVS-PoA (Version 02.0), the validation team hereby confirms that:

- (a) All assumptions and data used by the PP are listed in the generic CPA-DD, including their references and sources;
- (b) All documentation used by CME as the basis for assumptions and source of data is correctly quoted and interpreted in the generic CPA-DD;
- (c) All values used in the generic CPA-DD are considered reasonable in the context of the proposed generic CPA;
- (d) The baseline methodology AMS-I.D (Version 18.0) /B02/ and 'Tool to calculate the emission factor for an electricity system' version 7 /B11/ has been applied correctly to calculate project emissions, baseline emissions, leakages as well as emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the generic CPA-DD.

¹⁴ Vietnam's Grid emission factor for Vietnam, 2020, [http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu-xay-dung-he-so-phat-thai-\(EF\)-cua-luoi-dien-Viet-Nam-\(K%C3%A8m-CV-263/BDKH\).html](http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html)

D.2.3.5. Monitoring plan

Means of validation	DR, I		
Findings	CAR 16, CAR 17 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<u>Monitoring plan:</u>		
	The following parameters will be fixed ex-ante at PoA Level:		
	Parameters	Value	Assessment
	Operating Margin CO2 emission factor in year y ($EF_{grid,OM,y}$)	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
	Build Margin CO2 emission factor in year y ($EF_{grid,BM,y}$)	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.
Combined Margin CO2 emission factor in year y ($EF_{grid,CM,y}$)	0.89625 tCO ₂ /MWh	Calculated. Validation team has noted that the value of Combined grid emission factor is calculated according to version 07.0 of "Tool to calculate the emission factor for an electricity system", the following default weights are applied to solar power plants: wOM = 0.75 and wBM = 0.25. The calculation is correctly done thus acceptable to the validation team.	
The following parameters will be monitored			
	Parameters	Assessment	
	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) ($EG_{PJ,y}$ or $EG_{facility,y}$)	<p>The meter at the monitoring point is a bidirectional meter or electronic tri-vector meter. It will measure the total electricity exported to the Grid ($EG_{export,y}$) and total electricity imported from the Grid ($EG_{import,y}$) for internal consumption by the project.</p> <p>Therefore, the net electricity supplied by the project activity is the result of the parameters $EG_{export,y}$ subtract to $EG_{import,y}$.</p> $EG_{PJ,y} = EG_{Export} - EG_{Import}$ <p>One back-up meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the grid company will jointly calculate a conservative</p>	

	<p>estimate of power supplied to the grid.</p> <p>The data of electricity export and import will be measured continuously and print out monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22 and Vietnamese local standard as well.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007¹⁵ and Decision No.25/2007/QD-BKHCN dated 05/10/2007¹⁶ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p>
	<p>The monitoring plan as provided in the generic CPA includes information on objective, data recording, roles and responsibilities, data archiving and QA/QC procedures (meter calibration procedures). The arrangements described in the generic CPA are common practice for such kind of project activities. The data will be archived for two years after the crediting period.</p> <p>The monitoring plan content has been checked in the generic CPA and compared against the requirements of the monitoring methodology /B02/.</p> <p>The monitoring plan is assessed to be appropriate for the technology type installed. All means of implementing the monitoring plan are in line with the applied and monitoring methodology /B02/. The validation team has no doubts that the monitoring arrangements as described in the part II of PoA-DD /2/ will be implemented properly. This is in conformance with the requirements of §127 and §149 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.4.Crediting period type and duration

Means of validation	DR, I
Findings	<i>CAR 18 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The validation team reviewed the PoA-DD /2/ and found that the CME has defined the type and duration of all corresponding CPA is Renewable Crediting Period, and the duration is 7 years 0 month, renewable for 3 times maximum. The duration of crediting period of each CPA is limited to the end date of the PoA or the expected lifetime of the CPA whichever comes earlier</p> <p>Based on the above assessment, the validation team concludes that the crediting period type and duration is in conformance with the requirement of §135 PoA-VSS (Version 02.0) /B01-a/ and § 122 PS-PoA (Version 02.0) /B01-b/.</p>

D.2.5.Eligibility criteria for inclusion of CPAs

No.	Eligibility criteria - Category/Required condition	Means of validation	Findings	Conclusion
1	Category:	The geographical boundary of this CPA is	CL 03 was	According to §124 (a), of the CDM project standard for programmes

¹⁵ <https://vanbanphapluat.co/decision-no-13-2007-qd-bkhn-promulgating-list-of-measurement-means-subject-to-expertise>

¹⁶ <https://vanbanphapluat.co/decision-no-25-2007-qd-bkhn-procedure-and-cycles-of-verification-of-measurement-instruments>

	<p>Geographical boundaries of CPAs consistent with the geographical boundary of the PoA;</p> <p><u>Required condition:</u></p> <p>The geographical boundary of the CPA area is uniquely defined and within the boundary of Vietnam.</p>	<p>within the geographical boundary of Vietnam.</p> <p>The criterion will be checked with GPS coordinates, maps as per feasibility studies, third party PLF report, land documents, commissioning certificates, permission from regulatory authorities or any other relevant document.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>of activities, version 2.0, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA. The PoA boundary is set as Vietnam. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
2	<p><u>Category:</u></p> <p>Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to avoid double counting in future. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
3	<p><u>Category:</u></p> <p>Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered;</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124(c) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to confirm that CPAs are neither registered as CDM project activities, or included in another</p>

	<p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p><i>dix 4 for details</i></p>	<p>registered PoAs, nor the project activities that have been deregistered. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
4	<p><u>Category:</u></p> <p>Specification of the technology/ measure</p> <p><u>Required condition:</u></p> <p>Technology for solar PV array use for CPAs consisting of either:</p> <ul style="list-style-type: none"> - Monocrystalline Solar Panels (Mono-Si) - Polycrystalline Solar Panels (p-Si) - Thin-Film: Amorphous Silicon Solar Panels (A-Si) - Concentrated PV Cell (CVP) <p>The Solar PV system will include:</p> <ul style="list-style-type: none"> -Mounting structures (potentially also including tracking system) -Junction box, distribution boxes and DC (direct current) cabling connecting modules with inverters -Inverters -Production meter on AC (alternating current) inverter output side (integrated to inverter) -Data logger and/or gateway to internet (potentially integrated to inverter) 	<p>This can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield CPA.</p> <p>The key specifications of relevant technology (solar PV, inverter) and their details or numerical values should be mentioned in real case specific CPA-DD. The technology shall have approval/ certification from the relevant designated authority. All the equipment of each CPA will be complied with applicable national/ international standards.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appen dix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.D (Version 18.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.D (Version 18.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

	<p>-Transformers</p> <p>-Circuit breakers</p> <p>-System for control and monitoring</p> <p>-Grid utility meter</p> <p>Evacuation system / grid connection system</p> <p>The capacity range of Case 4's entire system will be ≤ 5 MW.</p> <p>Electricity produced by the project activity will be monitored at the point it is exported to the grid.</p> <p>The technology shall have Approval / certification from the relevant designated authority.</p> <p>All the equipment of each CPA will be complying with applicable national/ international standards.</p>			
5	<p>Category:</p> <p>Conditions to check the start dates of CPAs;</p> <p>Required condition:</p> <p>The CPA only started after the start date of the PoA.</p> <p>The start date of the PoA is considered as 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & the relevant country's DNAs.</p> <p>Therefore, start date of the CPA must be later than 24/07/2018</p>	<p>As per the PS-PoA version 02.0, no CPA may commence before the PoA start date, or exceed the PoA lifetime. The start date of this PoA is 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & relevant country's DNAs.</p> <p>For the starting date of the CPA the Purchase orders/contracts for equipment or construction/operation services or any other documents as stated in the Glossary of CDM terms will be taken into account.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (e) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to ensure no CPA may start before the PoA start date.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
6	<p>Category:</p> <p>Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and</p>	<p>The CPA is required to fulfil the applicability criteria.</p> <p>Technology & installed capacity can be checked via Feasibility</p>	<p><i>CL 03 was raised and satisfactorily</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as</p>

	<p>the other applied methodological regulatory documents;</p> <p><u>Required condition:</u></p> <p>Project Activity will compromise of only AMS I.D, where it will:</p> <ol style="list-style-type: none"> 1.Be an installation of a Greenfield Plant 2.Have a plant capacity of ≤5MW 3.Only consist of Solar PV technology 4.Have all energy generated directed to the grid. 	<p>study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 5MW.</p> <p>The connectivity to the grid (if applicable) can be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>closed. Refer to Appen dix 4 for details</i></p>	<p>124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.D (Version 18.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.D (Version 18.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
7	<p><u>Category:</u></p> <p>Condition to ensure the CPA meet the requirement for demonstration of additionality.</p> <p><u>Required document:</u></p> <p>Micro scale CPAs shall be photovoltaic project and shall be automatically additional as per positive list state as per para 11, in the tool 'Demonstration of additionality of small-scale project activities' version 13.0</p> <p>Installed capacity to be confirmed by Inclusion Contract and documentary evidence; CME carries out further plausibility checks based on monitoring data</p>	<p>The micro scale CPA will be automatic additional as per positive list stated in the tool "Demonstration of additionality of small scale project activities".</p> <p>Technology & installed capacity will be indicated in inclusion contract and can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 5MW.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appen dix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs §124 (g) of the CDM project standard for programmes activities, version 2.0.</p> <p>All CPAs shall be demonstrated at the CPA level and provided they met this eligibility criteria of the PoA. This is adequately prescribed in section C of the PoA-DD. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
8	<p><u>Category:</u></p>	<p>Local stakeholder consultation and</p>	<p><i>CL 03 was</i></p>	<p>As per the PoA DD /02/, the local Stakeholder Consultation (LSC)</p>

	<p>Conditions related to undertaking local stakeholder consultation and environmental impact analysis;</p> <p><u>Required condition:</u></p> <p>The CPA shall conduct a local stakeholder consultation and environmental impact assessment according to local regulation. This will be reviewed by CME at CPA level</p>	<p>environmental impact analysis will be checked at CPA level.</p> <p>If host country regulation required, EIA Report / clearance from Government agency if applicable will be provided as evident documents.</p> <p>Minutes of meeting, attendance records, invitation letters, etc. will be provided as means of proof for the local stakeholder consultation.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>and environmental impact assessment are on CPA Level. Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (i) of the CDM project standard for programmes of activities, version 2.0. The referenced documents are assessed to be appropriate to show fulfilment of the criterion.</p> <p>Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
9	<p><u>Category:</u></p> <p>Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.</p> <p><u>Required condition:</u></p> <p>The CPA shall not involve funding from Annex I parties that results in a diversion of official development assistance.</p>	<p>Undertaking from CPA Owner or CPA Implementer will be provided. The CME will check this information to ensure no funding from Annex I parties.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
10	<p><u>Category:</u></p> <p>Target group (e.g. domestic/commercial/industri</p>	<p>The CPA will supply electricity to national/ regional grid or uses</p>	<p><i>CL 03 was raised</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per</p>

	<p>al, rural/urban, grid-connected/off grid), and where applicable, distribution mechanisms (e.g. direct installation);</p> <p><u>Required condition:</u></p> <p>The CPA supplies electricity to the national/regional grid or uses national grid for captive or third-party sale</p>	<p>national grid for captive or third-party sale.</p> <p>This eligibility criteria shall be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>§124 (k) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
11	<p><u>Category:</u></p> <p>CPA remain within SSC threshold</p> <p><u>Required condition:</u></p> <p>Each CPA will have a maximum capacity of 5MW per year throughout the 'PA's crediting period</p>	<p>The CPA follows AMS-I.D, Version 18.0, CPA is type I renewable energy project, each CPA under the PoA will have maximum output capacity of 15MW.</p> <p>The eligibility criteria include a criterion on the which states that each micro CPA will have a maximum capacity of 5MW per year throughout the CPA's crediting period.</p> <p>This criterion will be stated in the inclusion and verified by feasibility study report or the offer from the party providing the equipment / construction / operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (m) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
12	<p><u>Category:</u></p> <p>Condition of debundling check</p>	<p>The CPA is not debundled part of a larger activity.</p>	<p><i>CL 03 was raised and</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (n) in the CDM project</p>

	<p>Required condition:</p> <p>Small-scale CPA is not de-bundled part or larger activity</p> <p>CPA owner confirms by Inclusion Contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA</p>	<p>The CPA owner needs to confirm in the inclusion contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA.</p> <p>This will be verified in the inclusion contract and undertaking from CPA owner or CPA implementer.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
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Case 5 - Micro-Scale Captive Consumption CPAs (MCC)

D.2.1.General description of generic CPA

Means of validation	DR, I
Findings	<i>CAR 10, CAR 11 were raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>After review of the PoA-DD /2/ the validation team confirms that a typical CPA will involve installation and operation of a renewable energy solar photovoltaic power plant/unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The CPA includes renewable energy generation technologies (solar PV) that supply electricity to users for captive use/mini grid.</p> <p>This was further confirmed during the off-site visit interviews with the representatives of the CME and document reviews.</p> <p>The description provided for a generic CPA in part II of PoA-DD /2/ is in conformance to the requirements of §90 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.2.Selection of methodologies and standardized baselines

D.2.2.1.Deviation from methodologies and/or methodological tools

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.2.2.2.Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	DR, I
Findings	N/A
Conclusion	No clarification on applicability of methodology and or tools to the proposed PoA has been issued.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1.General

Means of validation	DR, I		
Findings	CAR 12, CAR 13 were raised and satisfactorily closed. Refer to Appendix 4 for details		
Conclusion	<p>The methodology applied is AMS-I.F (version 3.0) /B02/. It is applicable renewable energy based power plant which supply electricity to users. By means of interviews with representatives of CME and document check this could be confirmed.</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website /B15/. The applied version of the baseline and monitoring methodology /B02/ is valid at the time of submission for stakeholder consultation and also request for registration. All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled. (See table below)</p>		
	<p>Applicability criteria of the methodology (AMS-I.F), Version 3.0</p> <p>This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</p> <p>(a) A national or a regional grid (grid hereafter);</p> <p>(b) Fossil fuel fired captive power plant;</p> <p>(c) A carbon intensive mini-grid.</p>	<p>Justification in the PoA-DD</p> <p><u>Yes</u> <u>The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:</u></p> <p><u>(a) A national or a regional grid (grid hereafter);</u></p> <p><u>(b) Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid, in compliance with footnote 1 of AMS-I.F version 3.0 methodology/ footnote 21 of this PDD,</u></p> <p><u>(c) A carbon intensive mini-grid</u></p> <p>Yes The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options</p> <p>a) "Supplying electricity to a national or a regional grid" and /or</p> <p>c) A carbon intensive mini-grid</p>	<p>Determination by the validation team</p> <p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 5MW that displace electricity from <u>(a) national/ regional grid;</u> or <u>(b) Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid;</u> or <u>(c) supplies to a carbon intensive mini-grid can be included in this case.</u></p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, <u>inclusion contract;</u> etc)</p>

		Hence the CPA under PoA meets the given applicability criterion.	
	Illustration of respective situations under which each of the methodology (AMS-I.D., AMS-I.F. and AMS-I.A.2) applies is included in Table 3.	Yes. The 2nd option of Table 1 ¹⁷ of AMS I.F. Version 3, is applicable when CPA under PoA Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid).	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 5MW that displace electricity from national/regional grid or supplies to a carbon intensive mini-grid can be included in this case. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of	Not applicable. This PoA does not involve Hydro Power, hence this criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA

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	Project type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

	<p>reservoir;</p> <p>(b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m²;</p> <p>(c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m².</p>		<p>inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 5MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>This methodology is applicable for project activities that:</p> <p>(a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant);</p> <p>(b) Involve a capacity addition (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).</p>	<p>Yes</p> <p>Any CPA under this PoA is installation of a new grid connected renewable energy power plant (solar PV) at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence the first criterion is applicable.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 5MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case.</p> <p>This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)</p>
	<p>In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.</p>	<p>Not applicable</p> <p>The CPA under the PoA will be a new captive consumption renewable energy plant (Solar PV) and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity.</p>	<p>The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.</p> <p>The justification of PP is reasonable.</p> <p>There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant ≤ 5MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included</p>

			in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	Not applicable The CPA under PoA will be Greenfield project and there is no existing power generation facility at the site. Hence the criteria is not applicable to the PoA or CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 5MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	If the unit added has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	Not applicable CPA under PoA will have capacity within eligibility limit of 5 MW and will involve only renewable component (solar PV). Unit does not co-fire fossil fuels. Hence the criterion is not applicable to the CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 5MW that displace electricity from national/ regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	Combined heat and power (co-generation)	Not applicable CPAs under this PoA is	The applied methodology is correctly quoted and is

	systems are not eligible under this category.	purely Solar PV, therefore this criterion is not applicable.	identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 5MW that displace electricity from national/regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting documents (FS, Equipment contract, PPA, etc)
	If electricity and/or steam/heat produced by the project activity is delivered to a third party, i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that there is no double counting of emission reductions.	Yes If energy produced by the project activity is delivered to a third party, a contract between supplier and consumer will be entered into to ensure no double counting of emission reductions.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. This will be crossed check by at CPA level by reviewing supporting documents (PPA, electricity supply contract etc)
	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not applicable. The PoA is a renewable energy power project which involves solar PV and is not a biomass project. Hence the criteria is not applicable to the PoA or CPA.	The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. The justification of PP is reasonable. There is a criteria was included also in the CPA inclusion criteria for case 5: Micro-Scale Captive Consumption CPAs. Only greenfield PV plant \leq 5MW that displace electricity from national/regional grid or supplies to a carbon intensive mini-grid can be included in this case. So this is not applicable. This will be crossed check by at CPA level by reviewing supporting

			documents (FS, Equipment contract, PPA, etc)
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D.2.3.2. Project boundary, sources and GHGs

Means of validation	DR, I
Findings	<i>CAR 14 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>As per §17 of the applied methodology AMS-I.F (version 3.0), the boundary of a typical CPA under this PoA confines to “<i>The spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system. In the case of electricity generated and supplied to distributed users (e.g. residential users) via mini/isolated grid(s) the project boundary may be confined to physical, geographical site of renewable generating units.</i></p> <p><i>The boundary also extends to the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”.</i></p> <p>Using a diagrammatic approach, the CPA boundary has been correctly identified in section B.3 of Part II of PoA-DD /02/.</p> <p>Validation team also confirms that the project boundary for the potential/future CPAs is based on the applied methodology /B02/ and the sources and gases within the boundary have been considered appropriately. This is in conformance with §105 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.3. Baseline scenario

Means of validation	DR, I
Findings	<i>CAR 15 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	<p>The procedure to identify the most plausible baseline scenario derived from the applied methodology has been applied correctly and is transparently and sufficiently documented in the PoA-DD /2/.</p> <p>As prescribed by §18 of the methodology AMS-I.F (version 3.0), “<i>the baseline emissions for a mini-grid system where all generators use exclusively fuel oil and/or diesel fuel, the baseline emissions is the annual electricity generated by the renewable energy unit times an emission factor for a modern diesel generating unit of the relevant capacity operating at optimal load as given in Table 2”.</i></p> <p>Also as per §19 of the methodology, “<i>Baseline emissions for other systems are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor”.</i></p> <p>Thus, the above baseline scenario is considered to be accurate and in conformance with the requirements of the applied methodology /B02/ and §111 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation	DR, I
Findings	-
Conclusion	<p>The equations and choices provided in the applied methodology, AMS-I.F (version 3.0) /B02/ are correctly quoted in the PoA-DD /2/. The emission reductions of the CPAs of the PoA would be calculated using the formulae mentioned in the applied methodology.</p> <p>Baseline Emissions:</p> <p>As per §18 of AMS-I.F (version 03.0), for a mini-grid system where all generators use exclusively fuel oil and/or diesel fuel, the baseline emissions is the annual electricity generated by the renewable energy unit times an emission factor for a modern diesel generating unit of the relevant capacity operating at optimal load as table 2 of AMS-I.F (version 03.0).</p>

As per §19 of AMS-I.F (version 03.0), Baseline emissions for other systems are the product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.

The baseline emissions are calculated as follows:

$$BE_y = EG_{BL,y} \times EF_{CO_2,y}$$

Where,

BE_y = Baseline Emissions in year y (t CO₂)

$EG_{BL,y}$ = Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh)

$EF_{CO_2,y}$ = Emission factor (t CO₂/MWh)

Based on scenario of CPA, the below relevant option need to be select for calculation of emission factor

1. Emission factor of a grid shall be calculated as per the procedures provided in AMS-I.D i.e., by using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO₂/MWh)
2. For a mini-grid system other than described in §18 above, the baseline emission factor shall be determined as per the weighted average emissions for the current generation mix following the procedure provided in AMS-I.D
3. Emission factor for captive electricity generation shall be calculated as per the procedures described in the latest version of the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation"

As per §20 of methodology, for project activities that displace grid electricity and fossil fuel fired on-site captive electricity, the baseline emission factor should reflect the emissions intensity of the grid and the captive power plant in the baseline scenario i.e. the weighted average emission factor for the displaced electricity is calculated using values based on the historical, prior three years ratios of electricity from captive plants and the grid. For new facilities, the most conservative (lowest) of the emission factor for the two power sources should be used.

As per option 1 above, the emission factor is calculated as combined margin emission factor as per methodology AMS I.D version 18 which further refers "Tool to calculate the emission factor for an electricity system, version 07" /B11/.

Out of the two options provided by the methodology for the calculation of emission factor, CME has chosen Option (a), i.e. combined margin approach (CM), to calculate the grid emission factor as per the 'Tool to calculate the emission factor for an electricity system' version 7 since data is available from an official source.

The baseline emission factor is calculated using the combined margin approach as described in the following steps:

STEP 1: Identify the relevant electricity systems;

STEP 2: Determine boundary of calculation in the project electricity system

STEP 3: Select a method to determine the operating margin (OM);

STEP 4: Calculate the operating margin emission factor according to the selected method;

STEP 5: Calculate the build margin (BM) emission factor;

STEP 6: Calculate the combined margin (CM) emission factor.

Calculation of Baseline Emission Factor EF_y

The baseline emission factor EF_y is calculated as the weighted average of the Operating Margin emission factor ($EF_{OM,y}$) and the Build Margin emission factor ($EF_{BM,y}$):

$$EF_y = w_{OM} * EF_{OM,y} + w_{BM} * EF_{BM,y}$$

Where,

W_{OM} = 75% weight for wind/solar energy projects and 50% for Hydro projects
 W_{BM} = 25% weight for wind/solar energy projects and 50% for Hydro projects
 $EF_{OM,y}$ = calculated as described in Steps 3&4 above (tCO₂/MWh)
 $EF_{BM,y}$ = calculated as described in Steps 5 above (tCO₂/MWh)

Emission factor of Vietnamese national grid is calculated and published by Vietnam DNA, Department of Climate Change, Ministry of Natural Resources and Environment (Official Dispatch No. 263/BDKH dated 12 March 2020), including:

Variables	Values	Source
Operating Margin Emission Factor	0.8795 tCO ₂ /MWh	Ministry of Natural Resources and Environment Vietnam (Most Updated Figure) ¹⁸
Build Margin Emission Factor	0.9465 tCO ₂ /MWh	

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

$$\Rightarrow EF_{grid,CM,y} = 0.75 \times 0.8795 + 0.25 \times 0.9465 = 0.89625 \text{ (tCO}_2\text{/MWh)}$$

The validation team has reviewed the Vietnam Emission Factor Calculation report published by Vietnam DNA, and confirm the $EF_{grid,CM,y}$ was correctly calculated according to Tool to calculate the emission factor for an electricity system' version 7 /B11/, using the most updated data up to the time of the validation report.

For option 2 of emission factor, in case of CPA involving a mini-grid system other than described in paragraph 18 of AMS I.F version 03, the baseline emission factor shall be determined as per the weighted average emissions for the current generation mix following the procedure provided in AMS-I.D. The value of this parameter will be determined based on specific mini grid involved in the CPA.

For option 3 of emission factor, latest version of the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 032 is referred. As per tool, below scenario CB is applicable.

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.

Determination of the emission factor for electricity generation for Scenario C: the electricity consumer can be provided with electricity from the captive power plant(s) and the grid.

As per paragraph 31 of the TOOL 5, case C.III was selected as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.

- Scenario A: Emission factor for electricity generation from grid which determined above for option 1: 0.89625 tCO₂/MWh.

- Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool 5 a value of 0.4 tCO₂/MWh as the electricity consumption source is a baseline electricity consumption source.

Hence, the conservative emission factor chosen for option 3 would be **0.4 tCO₂/MWh**. This will be fixed for the whole crediting period.

¹⁸ Vietnam's Grid emission factor for Vietnam, 2020, [http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu.-xay-dung-he-so-phat-thai-\(EF\)-cua-luoi-dien-Viet-Nam-\(K%C3%A8m-CV-263/BDKH\).html](http://dcc.gov.vn/van-ban-phap-luat/1059/Nghien-cuu.-xay-dung-he-so-phat-thai-(EF)-cua-luoi-dien-Viet-Nam-(K%C3%A8m-CV-263/BDKH).html)

~~**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;
Determination of the emission factor for electricity generation for Scenario B: Electricity consumption from an off-grid captive power plant, CPA selects option B2 (b) as per para 28 of tool a value of **0.4 tCO₂/MWh** as the electricity consumption source is a baseline electricity consumption source.~~

Project Emissions:

For most renewable power generation projects activities P_{Ey} = 0. As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the CPA is not geo-thermal or solar thermal, project emissions are not applicable.

Hence P_{Ey} = 0

Leakage Emissions:

No Leakage emissions are considered. The main emission potentially giving rise to leakage in the context of electrical sector projects is emission arising due to activities arising such as power plant construction and upstream emission from fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected.

Hence, L_{Ey} = 0

Emission reduction (E_{Ry}):

The project activity mainly reduces carbon dioxide through substitution of electricity generation with fossil fuel fired power plant by renewable electricity. The emission reduction E_{Ry} by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

$$E_{Ry} = B_y - P_{Ey} - L_{Ey}$$

Where,

E_{Ry} = Emission Reduction in year y (tCO₂/year)

B_{Ey} = Baseline emission in year y (tCO₂/year)

P_{Ey} = Project emissions in year y (tCO₂/year)

L_{Ey} = Leakage emission in year y (tCO₂/year)

D.2.3.5. Monitoring plan

Means of validation	DR, I										
Findings	CAR 16, CAR 17 were raised and satisfactorily closed. Refer to Appendix 4 for details										
Conclusion	<p><u>Monitoring plan:</u></p> <p>The following parameters will be fixed ex-ante at PoA Level:</p> <table border="1"> <thead> <tr> <th>Parameters</th><th>Value</th><th>Assessment</th></tr> </thead> <tbody> <tr> <td>Operating Margin CO₂ emission factor in year y (E_{F_{grid,OM,y}})</td><td>0.8795 tCO₂/MWh</td><td>Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.</td></tr> <tr> <td>Build Margin CO₂ emission factor in year y (E_{F_{grid,BM,y}})</td><td>0.9465 tCO₂/MWh</td><td>Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated</td></tr> </tbody> </table>		Parameters	Value	Assessment	Operating Margin CO ₂ emission factor in year y (E _{F_{grid,OM,y}})	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.	Build Margin CO ₂ emission factor in year y (E _{F_{grid,BM,y}})	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated
Parameters	Value	Assessment									
Operating Margin CO ₂ emission factor in year y (E _{F_{grid,OM,y}})	0.8795 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated 12/03/2020 /09/ and thus acceptable to the validation team.									
Build Margin CO ₂ emission factor in year y (E _{F_{grid,BM,y}})	0.9465 tCO ₂ /MWh	Validation team has noted that the value of grid emission factor is based on Grid Emission Factor Report approved by DNA Vietnam dated									

		12/03/2020 /09/ and thus acceptable to the validation team.
Combined Margin CO2 emission factor in year y ($EF_{grid,CM,y}$)	0.89625 tCO ₂ /MWh	Calculated. Validation team has noted that the value of Combined grid emission factor is calculated according to version 07.0 of the "Tool to calculate the emission factor for an electricity system", the following default weights are applied to solar power plants: wOM = 0.75 and wBM = 0.25. The calculation is correctly done thus acceptable to the validation team.
Emission factors for diesel generator systems ($EF_{diesel\ generation}$)	This will be decided at CPA level based on default values in Table 2 of AMS-I.F Version 03.	This is based on default values as per Table 2 of AMS I.F Version 03 The checked and confirmed by the validation team.
Emission factors for captive electricity generation (<u>users also connect to the grid</u>) ($EF_{captive}$)	0.4 tCO ₂ /MWh	<u>As per paragraph 31 of the TOOL 5, case C.III was selected as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.</u> <u>- Scenario A: Emission factor for electricity generation from grid which determined at 0.89625 tCO₂/MWh.</u> <u>- Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool 5 a value of 0.4 tCO₂/MWh as the electricity consumption source is a baseline electricity consumption source.</u> <u>Hence, the conservative emission factor chosen is 0.4 tCO₂/MWh. This is based on Conservative default value as per Scenario B, option B2 (b) of tool Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". Version 03.0. This was checked and confirmed by the validation team</u>
The following parameters will be monitored		

	Parameters	Assessment
	Quantity of net electricity displaced in year y (MWh/yr) (EG _{BL,y})	<p>The meter at the monitoring point is a Electronic Energy meter. It will measure the total electricity produced by the solar system.</p> <p>One check meter will also be installed at the monitoring point. The data of check-meter will be used in case of the main meter is failed. The main meter will be immediately repaired/ replaced and calibrated before reinstall.</p> <p>In very occasional case, both the meters fail (main meter and back up meters) fails, then the Project Owner and the end-user will jointly calculate a conservative estimate of power supplied.</p> <p>The data of electricity supplied will be measured continuously and record monthly, in which this fulfills the methodology requirement.</p> <p>The accuracy class is 0.2s for main meters complied with international standard IEC 62053-22 and is 0.5s for back up meters complied with international standard IEC 62053-22.</p> <p>Calibrations will be conducted every two years for the monitoring meters, this calibration frequency is in line with Vietnam national regulations (Decision No.13/2007/QD-BKHCN dated 06/07/2007¹⁹ and Decision No.25/2007/QD-BKHCN dated 05/10/2007²⁰ issued by Ministry of Science and Technology).</p> <p>The validation team deems that appropriate.</p>
		<p>The monitoring plan as provided in the generic CPA includes information on objective, data recording, roles and responsibilities, data archiving and QA/QC procedures (meter calibration procedures). The arrangements described in the generic CPA are common practice for such kind of project activities. The data will be archived for two years after the crediting period.</p> <p>The monitoring plan content has been checked in the generic CPA and compared against the requirements of the monitoring methodology /B02/.</p> <p>The monitoring plan is assessed to be appropriate for the technology type installed. All means of implementing the monitoring plan are in line with the applied and monitoring methodology /B02/. The validation team has no doubts that the monitoring arrangements as described in the part II of PoA-DD /2/ will be implemented properly. This is in conformance with the requirements of §127 and §149 of VVS-PoA (version 02.0) /B01-a/.</p>

D.2.4.Crediting period type and duration

Means of validation	DR, I
Findings	<i>CAR 18 was raised and satisfactorily closed. Refer to Appendix 4 for details</i>
Conclusion	The validation team reviewed the PoA-DD /2/ and found that the CME has defined the type and duration of all corresponding CPA is Renewable Crediting Period, and the duration is 7 years 0 month, renewable for 3 times maximum. The duration of crediting period of each CPA is limited to the end date of the PoA or the expected

¹⁹ <https://vanbanphapluat.co/decision-no-13-2007-qd-bkhn-promulgating-list-of-measurement-means-subject-to-expertise>

²⁰ <https://vanbanphapluat.co/decision-no-25-2007-qd-bkhn-procedure-and-cycles-of-verification-of-measurement-instruments>

	lifetime of the CPA whichever comes earlier
	Based on the above assessment, the validation team concludes that the crediting period type and duration is in conformance with the requirement of \$135 PoA-VSS (Version 02.0) /B01-a/ and \$ 122 PS-PoA (Version 02.0) /B01-b/.

D.2.5. Eligibility criteria for inclusion of CPAs

No.	Eligibility criterion - Category/Required condition	Means of validation	Finding s	Conclusion
1	<p><u>Category:</u></p> <p>Geographical boundaries of CPAs consistent with the geographical boundary of the PoA;</p> <p><u>Required condition:</u></p> <p>The geographical boundary of the CPA area is uniquely defined and within the boundary of Vietnam.</p>	<p>The geographical boundary of this CPA is within the geographical boundary of Vietnam.</p> <p>The criterion will be checked with GPS coordinates, maps as per feasibility studies, third party PLF report, land documents, commissioning certificates, permission from regulatory authorities or any other relevant document.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p>CL 03 was raised and satisfied only closed. Refer to Appendix x 4 for details</p>	<p>According to §124 (a), of the CDM project standard for programmes of activities, version 2.0, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA. The PoA boundary is set as Vietnam. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
2	<p><u>Category:</u></p> <p>Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and</p>	<p>CL 03 was raised and satisfied only closed. Refer to Appendix x 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to avoid double counting in future. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of</p>

		comprehensive to allow assessment and inclusion of the CPA into the registered PoA.		corresponding CPAs in the PoA.
3	<p><u>Category:</u></p> <p>Conditions to confirm that CPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered;</p> <p><u>Required condition:</u></p> <p>The CPA must not be part of any other PoA or will not be registered as individual CPA under any other emission reduction scheme or programme, or deregistered CDM project activity</p>	<p>This criterion will be stated in the inclusion contract where location is defined.</p> <p>CME will cross-check the unique GPS Coordinates of CPA or declaration from CPA implementer/owner or through review of available information on UNFCCC website will provide the necessary information to ensure the CPA is part of other programme or registered under other emission reduction scheme.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA into the registered PoA.</p>	<p>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124(c) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to confirm that CPAs are neither registered as CDM project activities, or included in another registered PoAs, nor the project activities that have been deregistered. Validation team based on review PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
4	<p><u>Category:</u></p> <p>Specification of the technology/ measure</p> <p><u>Required condition:</u></p> <p>Technology for solar PV array use for CPAs consisting of either:</p> <ul style="list-style-type: none"> - Monocrystalline Solar Panels (Mono-Si) - Polycrystalline Solar Panels (p-Si) - Thin-Film: Amorphous Silicon Solar Panels (A-Si) - Concentrated PV Cell (CVP) <p>The Solar PV system will include:</p> <ul style="list-style-type: none"> -Mounting structures (potentially also including 	<p>This can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield CPA.</p> <p>The key specifications of relevant technology (solar PV, inverter) and their details or numerical values should be mentioned in real case specific CPA-DD. The technology shall have approval/ certification from the relevant designated authority. All the equipment of each CPA will be complied with applicable national/</p>	<p>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.F (Version 03.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.F (Version 03.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion</p>

	<p>tracking system)</p> <ul style="list-style-type: none"> -Junction box, distribution boxes and DC (direct current) cabling connecting modules with inverters -Inverters -Production meter on AC (alternating current) inverter output side (integrated to inverter) -Data logger and/or gateway to internet (potentially integrated to inverter) -Transformers -Circuit breakers -System for control and monitoring -Grid utility meter <p>Evacuation system / grid connection system</p> <p>The capacity range of Case 5's entire system will be ≤ 5 MW.</p> <p>Electricity produced by the project activity will be monitored at the point it is exported to the grid.</p> <p>The technology shall have Approval / certification from the relevant designated authority.</p> <p>All the equipment of each CPA</p> <p>will be complying with applicable national/ international standards.</p>	<p>international standards.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>		<p>provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
5	<p><u>Category:</u></p> <p>Conditions to check the start dates of CPAs;</p> <p><u>Required condition:</u></p> <p>The CPA only started after the start date of the PoA.</p> <p>The start date of the PoA is considered as 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & the relevant country's'</p>	<p>As per the PS-PoA version 02.0, no CPA may commence before the PoA start date, or exceed the PoA lifetime. The start date of this PoA is 24/07/2018 which is the intimation of prior CDM consideration to UNFCCC & relevant country's DNAs.</p> <p>For the starting date of the CPA the Purchase orders/contracts for</p>	<p><i>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (e) of the CDM project standard for programmes of activities, version 2.0. The sources are assessed sufficient to ensure no CPA may start before the PoA start date.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including</p>

	<p>DNAs.</p> <p>Therefore, start date of the CPA must be later than 24/07/2018</p>	<p>equipment or construction/operation services or any other documents as stated in the Glossary of CDM terms will be taken into account.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>		<p>the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
6	<p>Category:</p> <p>Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents;</p> <p>Required condition:</p> <p>Project Activity will compromise of only AMS I.F, where it will:</p> <ol style="list-style-type: none"> 1.Be an installation of a Greenfield Plant 2.Have a plant capacity of ≤5MW 3.Only consist of Solar PV technology 4.Users would have been supplied electricity from one or more sources listed below: <ul style="list-style-type: none"> (a)A national or a regional grid (grid hereafter); (b)Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid in the project site, as per footnote 1 of AMS-I.F ver 3.0 (c)A carbon intensive mini-grid.4.Connect to isolated grid 5.At least one fossil-fuel fired generation source in the isolated grid 	<p>The CPA is required to fulfil the applicability criteria.</p> <p>Technology & installed capacity can be checked via Feasibility study report or the offer from the party providing the equipment / <u>purchase order/ work order/</u> construction / operation services proving that the CPA is greenfield solar power plant with capacity ≤ 5MW.</p> <p>The connectivity to the grid (if applicable)/ <u>user electricity consumption sources</u> can be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority.</p> <p>-or- the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfact orily closed. Refer to Appendix x 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as 124 (f) of the CDM project standard for programmes of activities, version 2.0.</p> <p>All CPAs shall apply the methodology AMS-I.F (Version 3.0). Provided the CPA met the eligibility criteria, the technology under the CPAs of the PoA will eligible as per AMS-I.F (Version 3.0). Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

	<p>6. Project classified as "generator"</p> <p>7. PV generation monitored by grid meter, and data transmitted to CME</p>			
7	<p>Category:</p> <p>Condition to ensure the CPA meet the requirement for demonstration of additionality.</p> <p>Required document:</p> <p>Micro scale CPAs shall be photovoltaic project and shall be automatically additional as per positive list stated in the tool 'Demonstration of additionality of small-scale project activities' version 13.0, para 11.</p> <p>Installed capacity to be confirmed by Inclusion Contract and documentary evidence; CME carries out further plausibility checks based on monitoring data</p>	<p>The micro scale CPA will be automatic additional as per positive list stated in the tool "Demonstration of additionality of small scale project activities".</p> <p>Technology & installed capacity will be indicated in inclusion contract and can be checked via Feasibility study report or the offer from the party providing the equipment / construction / operation services proving that the CPA is greenfield solar power plant with capacity $\leq 5\text{MW}$.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs §124 (g) of the CDM project standard for programmes activities, version 2.0.</p> <p>All CPAs shall be demonstrated at the CPA level and provided they met this eligibility criteria of the PoA. This is adequately prescribed in section C of the PoA-DD. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
8	<p>Category:</p> <p>Conditions related to undertaking local stakeholder consultation and environmental impact analysis;</p> <p>Required condition:</p> <p>The CPA shall conduct a local stakeholder consultation and environmental impact assessment according to local regulation. This will be reviewed by CME at CPA level</p>	<p>Local stakeholder consultation and environmental impact analysis will be check at CPA level.</p> <p>If host country regulation required, EIA Report / clearance from Government agency if applicable will be provided as evident documents.</p> <p>Minutes of meeting, attendance records, invitation letters, etc. will be provided as means of prove for the local stakeholder consultation.</p> <p>Therefore, criterion is</p>	<p>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</p>	<p>As per the PoA DD /02/, the local Stakeholder Consultation (LSC) and environmental impact assessment are on CPA Level. Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (i) of the CDM project standard for programmes of activities, version 2.0. The referenced documents are assessed to be appropriate to show fulfilment of the criterion.</p> <p>Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including</p>

		objective and comprehensive to allow assessment and inclusion of the CPA.		the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
9	<p>Category:</p> <p>Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance.</p> <p>Required condition:</p> <p>The CPA shall not involve funding from Annex I parties that results in a diversion of official development assistance.</p>	<p>Undertaking from CPA Owner or CPA Implementer will be provided. The CME will check this information to ensure no funding from Annex I parties.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
10	<p>Category:</p> <p>Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off grid), and where applicable, distribution mechanisms (e.g. direct installation);</p> <p>Required condition:</p> <p>The CPA supplies electricity to the national/regional grid or uses national grid for captive or third-party sale</p>	<p>The CPA will supply electricity to national/regional grid or uses national grid for captive or third-party sale.</p> <p>This eligibility criteria shall be verified using the Power Purchase Agreement / Wheeling Agreement or the Approval from the relevant local authority or the Purchase Orders /Work Order / contract with party Providing equipment / construction /operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and</p>	<p><i>CL 03 was raised and satisfactorily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (k) in the CDM project standard for programmes of activities, version 02. The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

		inclusion of the CPA.		
11	<p>Category: CPA remain within SSC threshold</p> <p>Required condition: Each CPA will have a maximum capacity of 5MW per year throughout the CPA's crediting period</p>	<p>The CPA follows AMS-I.F, Version 3.0, CPA is type I renewable energy project, each CPA under the PoA will have maximum output capacity of 15 MW.</p> <p>The eligibility criteria include a criterion on the which states that each micro CPA will have a maximum capacity of 5MW per year throughout the CPA's crediting period.</p> <p>This criterion will be stated in the inclusion and verified by feasibility study report or the offer from the party providing the equipment / construction / operation services.</p> <p>Therefore, criterion is objective and comprehensive to allow assessment and inclusion of the CPA.</p>	<p><i>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (m) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>
12	<p>Category: Condition of debundling check</p> <p>Required condition: Small-scale CPA is not de-bundled part or larger activity CPA owner confirms by Inclusion Contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA</p>	<p>The CPA is not debundled part of a larger activity.</p> <p>The CPA owner needs to confirm in the inclusion contract that within the previous 2 years no other of his PV plants located in a distance of less than 1 km has been registered as CDM project or included as CDM CPA to a PoA.</p> <p>This will be verified in the inclusion contract and undertaking from CPA owner or CPA implementer.</p> <p>Therefore, criterion is objective and</p>	<p><i>CL 03 was raised and satisfact orily closed. Refer to Appendix 4 for details</i></p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (n) in the CDM project standard for programmes of activities, version 02.</p> <p>The referenced documents are assessed to be appropriate to show fulfilment of the criterion. Validation team based on review of PoA-DD /02/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion – category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the</p>

		comprehensive to allow assessment and inclusion of the CPA.		assessment of the inclusion of corresponding CPAs in the PoA.
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SECTION E. Internal quality control

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The final validation report passed a technical review and quality review before being submitted to the project participant(s)/coordinating managing entity and UNFCCC Executive Board. A technical reviewer qualified in accordance with CCIPL's qualification scheme for CDM validation and verification performed the technical review.

SECTION F. Validation opinion

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The DOE (Carbon Check (India) Private Ltd.) hereafter referred to as CCIPL, has been appointed by "Climate Resources Exchange International Pte Ltd" to perform validation of their PoA "The Solar United Network South East Asia Pacific (SUNSEAP) Program". The validation was performed on the basis of the UNFCCC criteria for the Clean Development Mechanism. The scope of the validation is defined as an independent and objective review of the programme of activities design document (PoA-DD) /2/, the project's baseline establishment and monitoring plan and other relevant documents. The information in these documents is reviewed against PoA Validation and Verification Standard, Version 02.0 /B01-a/, Kyoto Protocol requirements, CDM Modalities & Procedures and subsequent decisions and guidance by the COP/MOP and CDM Executive Board.

The report is based on the assessment of the PoA-DD /2/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, stakeholder interviews, review of the applicable/applied methodologies /B02/ and their underlying formulae and calculations.

The Validation team confirms the contractual relationship signed between the DOE, CCIPL and the CME "Climate Resources Exchange International Pte Ltd". The team assigned to the validation meets the CCIPL internal procedures including the UNFCCC requirements for the team composition and competence. The validation team has conducted a thorough contract review as per UNFCCC and CCIPL's procedures and requirements.

Validation methodology and process

The validation has been performed as described in the VVS (version 02.0) /B01-a/ and constitutes the following steps:

- Publication of the PoA-DD /1/ on the UNFCCC website (14/02/2019 to 16/03/2019) for GSC
- Document review of data and information (PoA-DD /1/ and the relevant documents including the reference to information relating to projects or technologies similar to the proposed project activity and review based on the approved methodologies /B02/ being applied and the appropriateness of formulae and accuracy of calculations).
- Cross checks between information provided in the PoA-DD and information from other sources
- Follow up actions for cross checking data and on-site assessment / interviews
- Reference to available documents
- Issuance of Validation Report

Validation criteria

The following CDM requirements have been considered:

- Article 12 of the Kyoto Protocol
- Modalities and procedures for CDM (CDM M & P)
- Subsequent decisions by the COP/MOP and CDM Executive Board
- Host country criteria
- Criteria given to provide for consistent project operations, monitoring and reporting.

The host party for the PoA is Viet Nam. LoA from the host party DNA confirms that the party fulfills the participation requirements and have approved and authorized the project and the project participants /CME /3/. The DNA confirms that the project assists in achieving sustainable development.

The PoA correctly applies the baseline and monitoring methodologies /B02/.

The PoA will result in emissions reductions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the PoA is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the PoA.

The validation did not reveal any information that indicates that the PoA can be seen as a diversion of ODA funding /5/.

The PoA-DD /2/ contains monitoring plan for the monitoring of the emission reductions from the PoA. The monitoring arrangement described in the monitoring plan is feasible within the project design and its CCIPL's opinion that the project participants are able to implement the monitoring plan.

The validation report describes a total of 265 findings, which include:

- 224 Corrective Action Requests (CARs);
- 04 Clarification Requests (CLs);
- 00 Forward Action Requests (FARs);

All findings have been resolved by the CME.

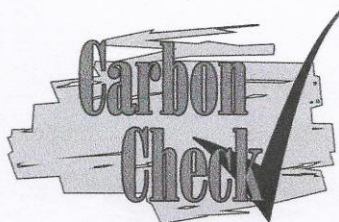
Carbon Check (India) Private Ltd. is able to conclude the validation with a positive opinion that the CDM PoA "The Solar United Network South East Asia Pacific (SUNSEAP) Program" in Viet Nam, as described in the PoA-DD /2/, meets all applicable CDM requirements, including those specified in the CDM Project Standard for PoAs /B01-b/, relevant methodologies /B02/ and article 12 of the Kyoto Protocol, paragraph 37 of the CDM modalities and procedures and the subsequent decisions by the COP/MOP and CDM Executive Board.

Carbon Check (India) Private Ltd., therefore requests the registration of the project activity as a CDM PoA with UNFCCC.

Appendix 1. Abbreviations

Abbreviations	Full Texts
BE	Baseline Emission
CAR	Corrective Action Request
CCIPL	Carbon Check (India) Private Ltd
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CL	Clarification Request
CME	Co-ordinating or Managing Entity
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
COP/MOP	Conference of Parties/ Meeting of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GSC	Global Stakeholders Consultation
GWh	Giga Watt Hours
I	Interview
IPCC	Intergovernmental Panel on Climate Change
kW	Kilo Watt
kWh	Kilo Watt Hours
LEy	Leakage
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MoV	Means of Verification
MOC	Modalities of Communications
MW	Mega Watt
MWh	Mega Watt Hours
NA	Not applicable
NCV	Net Calorific Value
NGO	Non-Government Organisation
ODA	Official Development Assistance
OSV	On Site Visit
PE	Project Emission
PoA	Programme of Activities
PoA-DD	Programme of activities design document
PP	Project Participant
PPA	Power Purchase Agreement
PS	Project Standard
PCP	Project Cycle Procedure
SD	Sustainable Development
T	Tonne
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team member and technical reviewers



Carbon Check (India) Private Ltd.

Vikash Kumar Singh

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Expert ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

TA 1.1	<input checked="" type="checkbox"/>	TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input type="checkbox"/>	TA 9.2	<input type="checkbox"/>	TA 13.2	<input checked="" type="checkbox"/>
TA 1.2	<input checked="" type="checkbox"/>	TA 4.1	<input checked="" type="checkbox"/>	TA 8.1	<input type="checkbox"/>	TA 10.1	<input type="checkbox"/>	TA 14.1	<input type="checkbox"/>
TA 2.1	<input type="checkbox"/>	TA 5.1	<input type="checkbox"/>	TA 9.1	<input type="checkbox"/>	TA 13.1	<input checked="" type="checkbox"/>		

Mr. Amit Anand
CEO

Date of Approval
24/12/2019

Valid Till
23/12/2020

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2016	Annual Revision
24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision

¹ India, South Africa

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Carbon Check (India) Private Ltd.

Nguyen Hong Ngoc Trang

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator ☒ Team Leader ☒ Technical reviewer ☐
 Verifier ☒ Technical Expert ☒ Local Expert¹ ☒

In the following Technical Areas:

TA 1.1 ☒ TA 3.1 ☐ TA 5.2 ☐ TA 9.2 ☐ TA 13.2 ☐
 TA 1.2 ☒ TA 4.1 ☐ TA 8.1 ☐ TA 10.1 ☐ TA 14.1 ☐
 TA 2.1 ☐ TA 5.1 ☐ TA 9.1 ☐ TA 13.1 ☒


 Mr. Vikash Kumar Singh
 Compliance Officer

Date of Approval
 24/12/2019


 Mr. Amit Anand
 CEO

Valid Till
 23/12/2020

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24/12/2019	Annual Revision

¹ Viet Nam

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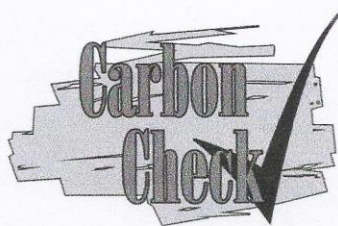
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Carbon Check (India) Private Ltd.

Sanjay Agarwalla

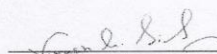
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

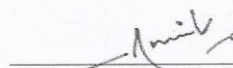
For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Expert ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

TA 1.1	<input checked="" type="checkbox"/>	TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input checked="" type="checkbox"/>	TA 9.2	<input checked="" type="checkbox"/>	TA 13.2	<input type="checkbox"/>
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TA 2.1	<input checked="" type="checkbox"/>	TA 5.1	<input checked="" type="checkbox"/>	TA 9.1	<input checked="" type="checkbox"/>	TA 13.1	<input checked="" type="checkbox"/>		


Mr. Vikash Kumar Singh
 Compliance Officer


Mr. Amit Anand
 CEO

Date of Approval
 24/12/2019

Valid Till
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24/12/2019	Annual Revision

¹ India

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Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	CME	Webhosted PoA-DD Interim version PoA-DD Interim version PoA-DD	Version 01, dated 14/01/2019 Version 02, dated 25/05/2020 Version 03, dated 09/06/2020	CME
2	CME	Final PoA- DD	Version 04 3 , dated 07/09/2019 12/06/2020	CME
3	Vietnam DNA	Letter of Approval from host country Vietnam	Approval No. 01/2020/DCC-BCD, dated 16/03/2020	CME
4	CME	Modalities of Communication	Date 09/04/2019	CME
5	CME	CME declaration for non-involvement of any public funding from Annex I countries for this CPA	Dated 25/10/2019	CME
6	CME	Evidence for the start date of the PoA – CDM PoA prior consideration Form – Notification email from UNFCCC	Dated 24/07/2018	CME
7	CME	PoA Management System Manual	Version 01, dated 26/04/2020	CME
8	CC IPL	Validation contract between the CME and DOE	Dated 01/02/2019	CME
9	Vietnam DNA	Vietnam National Grid Emission Factor 2018, No. 263/BDKH	Dated 12/03/2020	CME
10	CME/EB	Communication letter with EB on the changes of host parties.	Dated 05/03/2020	CME
/B01/	UNFCCC	a) CDM Validation and Verification Standard for Program of Activities, Version 02.0 b) CDM project standard for Program of Activities, Version 02.0 c) CDM Project Cycle Procedure for Program of Activities, Version 02.0	http://cdm.unfccc.int/	Public
/B02/	UNFCCC	d) AMS-I.D.- Grid connected renewable electricity generation --- Version 18.0 e) AMS-I.F. - Renewable electricity generation for captive use and mini-grid --- Version 3.0 f) ACM0002 Grid-connected electricity generation from renewable sources – Version 20.0	http://cdm.unfccc.int/	Public
/B03/	UNFCCC	Instructions for filling out the project design document form for CDM programme of activities (Version 09.0)	http://cdm.unfccc.int/	Public
/B04/	UNFCCC	Methodological Tool 01: Tool for the demonstration and assessment of additionality, Version 7.0.0	http://cdm.unfccc.int/	Public
/B05/	UNFCCC	Methodological Tool 02: Combined tool to identify the baseline scenario and demonstrate additionality, Version 7.0	http://cdm.unfccc.int/	Public
/B06/	UNFCCC	Methodology Tool 23: Additionality of first-of-its-kind project activities, Version 3	http://cdm.unfccc.int/	Public
/B07/	UNFCCC	Methodology Tool 24: Common Practice, Version 3.1	http://cdm.unfccc.int/	Public
/B08/	UNFCCC	Methodological Tool 19: Demonstration of additionality of microscale project activities, Version 09.0	http://cdm.unfccc.int/	Public

/B09/	UNFCCC	Methodological Tool 21: Demonstration of additionality of small scale project activities, Version 13.0	http://cdm.unfccc.int/	Public
/B10/	UNFCCC	Methodological Tool 27: Investment Analysis, Version 10.0	http://cdm.unfccc.int/	Public
/B11/	UNFCCC	Methodological Tool 07: Tool to calculate the emission factor for an electricity system, Version 07.0	http://cdm.unfccc.int/	Public
/B12/	UNFCCC	Methodological Tool 20: Assessment of debundling for small-scale project activities, Version 4.0	http://cdm.unfccc.int/	Public
/B13/	UNFCCC	Glossary of CDM Terms, Version 10.0	http://cdm.unfccc.int/	Public
/B14/	UNFCCC	General Guidelines to SSC CDM methodologies, Version 23.0	http://cdm.unfccc.int/	Public
/B15/	UNFCCC	Websites: http://cdm.unfccc.int/	http://cdm.unfccc.int/	Public

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

Table 1. CLs from this validation

CL ID	01	Section no.	D.1.2	Date: 29/03/2019
Description of CL				
Please elaborate clearer in the section A.1 (d) how the proposed PoA contributes to sustainable development. The verification team find the description in the session did not provide sufficient information.				
CME response				Date: 26/05/2020
<p>Inserted additional information:</p> <p>The PoA will also support Vietnam in meeting and contributing to their Intended Nationally Determined Contributions (INDCs) by reducing greenhouse gas emission to meet their respective targets, in line with their Nationally Appropriate Mitigation Actions (NAMAs).</p> <p>This PoA will benefit the Host Party by contributing to its target of a 25% relative emission reduction compared to Business as Usual (BAU) and 30% reduction in emission intensity per GDP, compared to its emissions in 2010 by 2030, through the development of renewable energy.</p>				
Documentation provided by CME				
<p>- Revised PoA DD, version 02.0</p> <p>- Letter of Approval from host country Vietnam, approval No. 01/2020/DCC-BCD, dated 16 Mar 2020</p>				
DOE assessment				Date: 27/05/2020
<p>CME has submitted the revised PoA-DD which has clearly described in section A.1 how proposed PoA contributes to the sustainable development of the host country. The validation team has reviewed the LoA from host country Vietnam, approval No. 01/2020/DCC-BCD, dated 16 Mar 2020 and confirmed the same.</p> <p>CL 01 is closed</p>				

CL ID	02	Section no.	D.1.2	Date: 29/03/2019
Description of CL				
As request from instructions for completing CDM-PoA-DD Form, please indicate the host parties of the PoA by adding "(host party)" after the Parties name.				

CME response	Date: 26/05/2020
Term 'Host Party' was added behind Parties name.	
Documentation provided by CME	
- Revised PoA DD, Version 02.0	
DOE assessment	Date: 27/05/2020
CME has submitted revised PoA-DD which clearly indicated "Host party" as requirement from PoA filling instruction.	
CL 02 is closed.	

CL ID	03	Section no.	D.2.4	Date: 29/03/2019
Description of CL				
As per paragraph 123 of Project Standard for PoA, version 02.0,				
<i>"The coordinating/managing entity shall define the eligibility criteria for inclusion of CPAs in the proposed CDM PoA, setting out required conditions for a proposed CPA to be included in the PoA, and shall demonstrate the usability of the eligibility criteria for assessing the inclusion of CPAs in the PoA".</i>				
1)In the context of eligibility criteria it is unclear to the validation team how the required conditions (including the supportive evidence) are set by the CME, while doing so please also refer to paragraph 124 (read with foot note 23 & 24) of Project Standard for PoA, version 02.0.				
As request of paragraph 124, PoA PS Version 02.0 the eligibility criteria shall cover as a minimum of criteria (a) to (n). The validation team found that there are some required eligibility criteria are missing in the PoA-DD. Please revisit all of your criteria and define again accordance with paragraph 124, PS PoA Version 2.0.				
CME response				Date: 26/05/2020
The eligibility criteria have been revised and cover all the minimum of criteria (a) to (n) as per request of paragraph 124. CME has defined and setting the conditions for a proposed CPA to be included in the PoA and indicated the required evidence documents as requirement.				
Documentation provided by CME				
-Revised PoA DD, Version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD with appropriate correction which fulfil with paragraph 123 and 124 of Project Standard for PoA, version 02.0.				
CL 03 is closed.				

CL ID	04	Section no.	TR comment	Date: 04/06/2020
Description of CL				
<p>1)On page 2 of the PoA DD CME needs to clarify the statement "The generic CPAs for above five possible scenarios are included in Parts II to VI in this PoA-DD". Moreover, all the separate generic CPA-DDs must be covered in Part II of the PoA-DD only as per the template without altering the wordings of the template.</p> <p>2)CME needs to provide foot note evidence for the statement in section A.1: "In the case of Vietnam, this PoA will benefit the Host Party by contributing to its target of a 25% relative emission reduction compared to Business as Usual (BAU) and 30% reduction in emission intensity per GDP, compared to its emissions in 2010 by 2030, through the development of renewable energy."</p> <p>3)In section A.5 the PP's name is inconsistent.</p> <p>4)For demonstration of micro scale additionality under eligibility criterion number 7, CME has stated: "Micro scale CPAs shall be photovoltaic project and shall be additional as per positive list state in the tool "Demonstration of additionality of micro-scale project activities' version 9.0". CME needs to provide exact para reference of the tool in a transparent manner.</p>				

5)Appendix 7 of the PoA DD has been left blank. As per PoA-DD completing guidelines "If a section of this form is not applicable, explicitly state that the section is left blank intentionally"	
CME response	Date: 04/06/2020
<p>1)Statement has been amended to reflect "The generic CPAs for above five possible scenarios are included in Parts II in this PoA-DD". All parts before that named as Part II.</p> <p>2)Footnote of Viet Nam's INDC has been added for statement in A.I.</p> <p>3)PP's name has been amended.</p> <p>4)The micro-scale CPA shall automatic additional according to of "Demonstration of additionality of small-scale project activities" para 11. It has been revised in the eligibility criterion number 7</p> <p>5)Section has been answered to reflect 'the section is left blank intentionally'.</p>	
Documentation provided by CME	
<i>Revised PoA DD, Version 03.0</i>	
DOE assessment	Date: 16/06/2020
CME has submitted revised PoA-DD. The validation team has checked and confirmed this is correctly revised.	
CL 04 is closed.	

Table 2. CARs from this validation

CAR ID	01	Section no.	D.1.2	Date: 29/03/2019
Description of CAR				
In section A.1 of the PoA-DD, there is a statement that "... an individual CPA will either be small-scale CPA (having methodology AMS I.D version 18 or AMS I.F version 03) or large-scale CPA (having methodology ACM0002 version 20)..." However, in the table 1, the possible scenarios for CPA have indicated the micro-scale project also which is inconsistent with the above statement.				
CME response				Date: 26/05/2020
Edited sentence to include micro-scale projects to keep information in table 1 consistent with statement.				
Documentation provided by CME				
<i>-Revised PoA DD, Version 02.0</i>				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD which also include micro-scale projects. The validation team has reviewed and found this is consistent through out the PoA-DD.				
CAR 01 is closed				

CAR ID	02	Section no.	D.1.2	Date: 29/03/2019
Description of CAR				
<p>1) In section A.3 of PoA-DD, please describe in section A.3 how the technologies/ measures and know-how for their use are transferred to the host country</p> <p>2)Please indicate the lifetime of project</p>				
CME response				Date: 26/05/2020
<p>1)CME has provided the information of how the technologies/ measures and know-how for their use are transferred to the host country in revised PoD-DD, version 02</p> <p>2)Lifetime of project & equipment was indicated in revised PoD-DD, version 02</p>				
Documentation provided by CME				
<i>-Revised PoA DD, Version 02.0</i>				

DOE assessment			Date: 27/05/2020	
CME has addressed all the comments raised in the revised PoA DD; It has been checked and confirmed by the validation team.				
CAR 02 is closed.				
CAR ID	03	Section no.	D.1.5	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, please describe how the start date has been determined in accordance with the definition of the start date in the "Glossary: CDM terms"</i>				
CME response			Date: 26/05/2020	
Description added: (Date above is determined in accordance of when the Prior Consideration was published and before the EPC contract was signed.)				
Documentation provided by CME				
- Revised PoA DD, Version 02.0 - Prior consideration email, dated 24 Jul 2018				
DOE assessment			Date: 27/05/2020	
CME has submitted the revised PoA DD, version 02.0 which has indicated how the start date has been determined. The start date of the PoA is 24/07/2018, which is the date of notification of the intention to seek the CDM status by the CME to the UNFCCC secretariat and the DNAs of the host parties. The validation team reviewed the UNFCCC PoA interface and email notification from EB and confirms the same to be accurate. This is also conformance with the requirements of the Glossary of CDM, version 10.0.				
CAR 03 is closed.				

CAR ID	04	Section no.	D.1.6	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, please provide the justification for your choice of the level at which environmental impacts analysis is undertaken.</i>				
CME response			Date: 26/05/2020	
Justification provided in the revised PoA-DD, version 02.0:				
Documentation provided by CME				
- Revised PoA DD, Version 02.0				
DOE assessment			Date: 27/05/2020	
CME has submitted revised PoA-DD and indicated that the environmental impact analysis will be conducted at CPA level and appropriately provide justification for it. As local regulation required the environmental impact assessment have to be conducted for each project activities, CME/ project owner will do it at CPA level.				
The validation team, by observation during the onsite visit, desk review and interview with relevant stakeholder, could be able to confirm that the choice is plausible and information is provided appropriately as the instruction requirement of PoA DD filling.				
CAR 04 is closed.				
CAR ID	05	Section no.	D.1.6	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, if the analysis of the environmental impacts is to be carried out at the CPA level, indicate "Not applicable". Please correct as per instruction.</i>				
CME response			Date: 26/05/2020	
Corrections made as per instruction.				
Documentation provided by CME				
- Revised PoA DD, Version 02.0				
DOE assessment			Date: 27/05/2020	

CME has submitted revised PoA-DD which has indicated according to the request from instructions for completing CDM-PoA-DD Form.

CAR 05 is closed

CAR ID	06	Section no.	D.1.6	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, if the analysis of the environmental impacts was not carried out, indicate "Not applicable" and provide a justification.</i>				
CME response				Date: 26/05/2020
Corrections made as per instruction.				
Documentation provided by CME				
-Revised PoA DD, Version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD which has indicated according to the request from instructions for completing CDM-PoA-DD Form.				
CAR 06 is closed				

CAR ID	07	Section no.	D.1.8	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, please provide the justification for your choice of level at which local stakeholder consultation is undertaken.</i>				
CME response				Date: 26/05/2020
Justification added: "Especially so for projects that have environmental and social impacts, consultation will not be a single conversation but a series of opportunities to create understanding about the project among those it will likely affect or interest, and to learn how these external parties view the project and its attendant risks, impacts, opportunities, and mitigation measures"				
Documentation provided by CME				
-Revised PoA DD, Version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA DD with the revision in the level of LSC. They selected to conduct LSC at the CPA level. This deemed plausible and appropriate.				
CAR 07 is closed.				

CAR ID	08	Section no.	D.1.8	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, if local stakeholder consultation is to be carried out at CPA level, please indicate "Not applicable"</i>				
CME response				Date: 26/05/2020
Corrections made as per instruction.				
Documentation provided by CME				
-Revised PoA DD, Version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD which has indicated according to the request from instructions for completing CDM-PoA-DD Form.				
CAR 08 is closed				

CAR ID	09	Section no.	D.1.10	Date: 29/03/2019
Description of CAR				

As per para 69 of PS, version 02.0, Project participants or the coordinating/managing entity shall obtain a letter of approval from the DNA of each Party involved in the proposed CDM project activity or PoA which is a prerequisite for request for registration for the PoA. CME needs to submit the LoA from the involved party(ies) in the PoA.	
CME response	Date: 26/05/2020
LoA from Vietnam DNA was submitted. CME has removed all the other host parties which we can't obtained the LoA at the moment.	
Documentation provided by CME	
-Letter of Approval from host country Vietnam, approval No. 01/2020/DCC-BCD, dated 16 Mar 2020	
DOE assessment	Date: 27/05/2020
<p>CME has submitted the LoA from Vietnam DNA and removed all the other host parties in the revised PoA-DD, Version 02.0. The validation team reviewed the LoA issued by Vietnam DNA dated 16/03/2020, has been signed and stamped by an authorized representative of the DNA. LoA states that:</p> <ol style="list-style-type: none"> 1.Title of the PoA: The Solar United Network South East Asia Pacific (SUNSEAP) Program. 2.This PoA is developed by Climate Resources Exchange International Pte Ltd. 3.The government of Vietnam has ratified the Kyoto Protocol on 25 Sept 2002; 4.The participation in the proposed programme CDM project activities is voluntary; 5.The project contributes to sustainable development of Vietnam; <p>Validation team confirms that the PoA contributes to sustainable development in the host country. This is in conformance with the requirements of §33(c) and §83 of PoA-PS (version 02.0) /B01-b/ and §69(c) VVS-PoA (version 02.0) /B01-a/.</p> <p>As the changes of host parties was made after the publication of the PoA-DD for global stakeholder consultation, according to the requirement of §18 PoA-PCP, the Project Participant seeked the guidance from the Executive Board on an official communication email on 04/03/2020 and received the answer from EB on 05/03/2020 /10/ confirming that the CME needs to revise the PoA-DD, listing only party(ies) that it has obtained an LoA when submitting the request for registration. In this email, EB also confirmed that after the registration, the CME may add other host parties through post-registration change process, once they have obtained the LoAs. There is no request from EB for re-webhosting for this change. CAR 09 is closed</p>	

CAR ID	10	Section no.	D.2.1	Date: 29/03/2019
Description of CAR				
The description in section H.3; H.4 (5 cases) of Part II doesn't fullfils the request from instructions for completing CDM-PoA-DD Form, please revisit those sections and provide sufficient information.				
CME response				Date: 26/05/2020
All 5 cases have been modified according to DD form.				
Documentation provided by CME				
-Revised PoA-DD				
DOE assessment				Date: 27/05/2020
<p>CME has submitted revised PoA-DD which provided the general description of the generic CPA, including (a) the purpose of the generic CPA and a summary of the technology/ measures to be employed and/or implemented by corresponding CPAs. This is inline with the requirement of from instructions for completing CDM-PoA-DD Form</p> <p>CAR 10 is closed</p>				

CAR ID	11	Section no.	D.2.1	Date: 29/03/2019
Description of CAR				

As per "Instruction for completing CDM-PoA-DD-Form" and requirement of paragraph 126, Project Standard for PoA, version 02.0, in section H.3 of the PoA DD, it is required to indicate the small-scale project type (Type I, Type II and/or Type III) applicable to the generic CPA. If applicable, indicate and demonstrate that the generic CPA qualifies for a microscale project type (Type I, Type II, Type III).

The same is missing in the PoA DD.

CME response	Date: 26/05/2020
<p>It has been added in section H.3 of the PoA-DD, version 02.0</p> <p>Case 2.3</p> <p>Type I SSC project activities are "Renewable energy project activities with a maximum output capacity of 15 MW (or an appropriate equivalent)"</p> <p>Case 4,5:</p> <p>Type I Micro scale project activities are "Renewable energy project activities with a maximum output capacity of 5 MW (or an appropriate equivalent)"</p>	
Documentation provided by CME	
-Revised PoA-DD	
DOE assessment	Date: 27/05/2020
<p>CME has submitted revised PoA DD with the indication and demonstration that the project type as type I. This is fulfilled with the "Instruction for completing CDM-PoA-DD-Form" and requirement of paragraph 126, Project Standard for PoA, Version 02.0.</p> <p>CAR 11 is closed.</p>	

CAR ID	12	Section no.	D.2.2.1	Date: 29/03/2019
Description of CAR				
Section I.1. of 5 cases haven't listed all the necessary TOOLS, and some of listed TOOLS is not the most updated one. Please revisit to provide the missing TOOLS and update the newest version of TOOLS.				
CME response				Date: 26/05/2020
It has been revised in the section I.1 of the PoA-DD, version 02.0 and listed all the necessary tools, all the tools was updated according to the request.				
Documentation provided by CME				
-Revised PoA-DD, version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD which provided all the necessary Tools according to the applied methodologies. All the Tools has been updated to the newest version. This is inline with the requirement of from instructions for completing CDM-PoA-DD Form				
CAR 12 is closed				

CAR ID	13	Section no.	D.2.2.1	Date: 29/03/2019
Description of CAR				
In section I.2 of the PoA-DD, the quoted methodology paragraphs should be verbatim as per the applied methodology. The present text is not matching with the applied methodology.				
CME response				Date: 26/05/2020
Applicability Tables have been updated accordingly for Cases 1-5.				
Documentation provided by CME				
-Revised PoA-DD, version 02.0				
DOE assessment				Date: 27/05/2020
CME has submitted revised PoA-DD which updated the applicability tables for all cases. The validation team has reviewed and confirmed that the present text is matching with the applied methodologies.				
CAR 13 is closed				

CAR ID	14	Section no.	D.2.2.4	Date: 29/03/2019
Description of CAR				

As request from instructions for completing CDM-PoA-DD Form, please “present a flow diagram of the project boundary, based on the description provided in section I.4 above. Include in the flow diagram all the facilities, systems, equipment and flows of mass and energy described in that section. In particular, indicate in the diagram the emissions sources and GHGs included in the project boundary and the data and parameters to be monitored”

CME response	Date: 26/05/2020
Flow diagram has been included for cases (1-5)	
Documentation provided by CME	
-Revised PoA-DD, version 02.0	
DOE assessment	Date: 27/05/2020
CME has revised the PoA-DD as per request from instructions for completing CDM-PoA-DD Form. The validation team has checked and confirmed it plausible.	
CAR 14 is closed	

CAR ID	15	Section no.	D.2.2.5	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form and Project Standard, Ver 02, para 104; 105, please describe in section I.5, how the relevant national and/or sectoral policies, regulations and circumstances are to be taken into account in accordance with the project standard. Please also provide the procedure in the applied methodologies to establish of baseline scenario, explain and justify key assumptions and rationales, provide and explain all data used to describe how to establish scenario (variables, parameters, data sources, etc), provide all relevant documentation and/ or reference.</i>				
CME response				Date: 26/05/2020
Paragraph added to relate Project Standard to regulation and policies with reference from the Viet Nam's INDC.				
Documentation provided by CME				
-Revised PoA-DD, version 02.0				
DOE assessment				Date: 27/05/2020
CME has revised the PoA-DD as per request from instructions for completing CDM-PoA-DD Form. The validation team has checked and confirmed it plausible.				
CAR 15 is closed				

CAR ID	16	Section no.	D.2.2.7	Date: 29/03/2019
Description of CAR				
<i>As requirement from PS, please include the information of QA&QC procedure, data recording & archiving, responsibilities and institutional arrangements for data collection and archiving, emergency procedures for the monitoring system in section I.7.3. In addition, provide line diagrams (graphical schemes) showing all relevant monitoring points.</i>				
CME response				Date: 26/05/2020
As per PS requirement, information requested to be added has been included for Section 1.7.3 (Case 1-5)				
Documentation provided by CME				
-Revised PoA-DD, version 02.0				
DOE assessment				Date: 27/05/2020
CME has revised the PoA-DD as per request from PS. The description of QA&QC procedure, data recording & archiving, responsibilities and institutional arrangements from data collection and archiving, emergency procedures for the monitoring system was added in the revised PoA-DD, version 02.0. The line diagram also was added which show all relevant monitoring points. The validation team has reviewed and confirmed that provided information are plausible.				
CAR 16 is closed				

CAR ID	17	Section no.	D.2.2.7	Date: 29/03/2019
Description of CAR				

<p>1) In section I.6.1 of case 3 & 5, the explanation of emission factors $EF_{CO_2,y}$ options to be used are missing.</p> <p>2) In section I.6.2 of Case 1,2,3,4 & 5, data and parameters fixed ex ante, the description of data/ parameters have been incorrectly stated. The value(s) applied and source of data haven't been indicated yet.</p> <p>3) In section I.6.2 of Case 3 & 5, the data and parameters fixed ex ante, only parameters for CPA involving photovoltaic projects where electricity displaces from nation/ regional grid was mentioned. In case CPAs displace fossil fuel fired on-site captive electricity & captive electricity generation, it is not clear for the validation team, which parameters will be used.</p> <p>4) In section I.7.1, monitoring parameters are not according to the requirements of the applied methodologies.</p>	
CME response	Date: 26/05/2020
<p>1) The explanation of emission factors $EF_{CO_2,y}$ for case 3 & 5 has been added in the section I.6.1</p> <p>2) The description of data/ parameters has been revised, value(s) applied & source of data was added in section I.6.2 of all 5 cases.</p> <p>3) The data/ parameters fixed ex ante has been included for case CPAs displace fossil fuel fired on-site captive electricity & captive electricity generation</p> <p>4) The monitoring data/parameters has been revised according to the requirements of applied methodologies.</p>	
Documentation provided by CME	
- Revised PoA-DD, version 02.0	
DOE assessment	Date: 27/05/2020
CME has revised the PoA-DD as per request from PS. The validation team has reviewed and found that the description & parameters has been included according to the applied methodologies.	
CAR 17 is closed	

CAR ID	18	Section no.	D.2.3	Date: 29/03/2019
Description of CAR				
<i>As request from instructions for completing CDM-PoA-DD Form, please state the length of crediting period that is applicable to all the corresponding CPAs, in years and months. Please also justify the duration of crediting period take into consideration of the end date of the PoA.</i>				
CME response				Date: 26/05/2020
<i>The length of crediting period has been presented in years and months. The justification of the duration of crediting period take into consideration of the end date of the PoA was also included.</i>				
Documentation provided by CME				
- Revised PoA-DD, version 02.0				
DOE assessment				Date: 27/05/2020
CME has addressed the comment and correctly revised the PoA-DD				
CAR 18 is closed				

CAR ID	19	Section no.	D.1.3	Date: 29/03/2019
Description of CAR				
<p>As the requirement of Instruction for completing CDM-PoA-DD-Form and paragraph 36 of PS-PoA (Version 02.0), a description on the CME Management system is required to be provided in the PoA DD. However, during review of Section B of the PoA-DD, the validation team did not find the below information:</p> <p>(a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies.</p> <p>(b) Procedure for technical review of inclusion of CPAs.</p> <p>(c) Records and documentation control process for each CPA under the PoA</p> <p>(d) A procedure to avoid double counting</p> <p>(e) Records and documentation control process for each CPA under the PoA</p>				
CME response				Date: 26/05/2020

The information of:

- (a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies.
- (b) Procedure for technical review of inclusion of CPAs.
- (c) Records and documentation control process for each CPA under the PoA
- (d) A procedure to avoid double counting
- (e) Records and documentation control process for each CPA under the PoA

have been added in the section B of the revised PoA - DD

Documentation provided by CME

Revised PoA DD, version 02

DOE assessment

Date: 27/05/2020

CME has submitted revised PoA-DD which clearly indicated the roles and responsibilities of personnel involved in the process of inclusion. Their competencies have documented in the section B. In addition, the procedure for technical review of CPA inclusion; records and documentation control process for each CPA under PoA; a procedure to avoid double counting has elaborated.

The validation team has reviewed the documents, cross-checked with the CME Management System Manual and confirmed that the information was appropriately documented and fulfil the requirement of Instruction for completing CDM-PoA-DD-Form and paragraph 36 of PS-PoA (Version 02.0).

CAR 19 is closed.

CAR ID	20	Section no.		Date:	26/04/2020
Description of CAR					
The CDM-PoA-DD Form Version 08.1 is obsolete. CME/PP is requested to use valid version of the template as per the requirement of paragraph 22 PS-PoA Version 02.0.					
CME response					Date: 26/05/2020
Template has been updated to version 09.0					
Documentation provided by CME					
Revised PoA DD, version 02					
DOE assessment					Date: 27/05/2020
CME has been correctly updated the template of PoA-DD, Version 02.0 to CDM-PoA-DD Form Version 09.0					
CAR 20 is closed					

CAR ID	21	Section no.		TR comment		Date:	04/06/2020
Description of CAR							
For section A.3 and H.4, the CME shall provide information on how the proposed PoA complies with paragraph 124 (d) and footnote 23 of PS-PoA ver. 02 which require to define the specification of the technology, as well as the performance specifications of the proposed Technology based on, inter alia, testing/certification.							
CME response							Date: 04/06/2020
Information has been included into Sections A.3 and H.4.							
Documentation provided by CME							
Revised PoA DD, version 03							
DOE assessment							Date: 16/06/2020
The CME has provided the revised PoA-DD, version 03 which has define the specification of the technology, as well as the required performance specifications of the proposed technology. As per technical knowledge of the validation team, the description is plausible and complies complies with paragraph 124 (d) and footnote 23 of PS-PoA ver. 02.							
CAR 21 is closed							

CAR ID	22	Section no.	CDM comment	Date: 04/12/2020
Description of CAR				
<p>1: The coordinating/managing entity did not demonstrate that the selected methodologies are applicable to the corresponding CPAs by showing that the design of the generic CPA meets all applicability conditions of these regulatory document. Pleaser refer to paragraph 91 of the PS-PoA version 2.0. The CM/E shall demonstrate in the generic component of Case 05 how the applicability conditions of AMS-I.F were met since the assessment of the compliance status contained in the second row of the table from item I.2 (page 103) is inconsistent with paragraph 2 of the methodology.</p> <p>2: The coordinating/managing entity did not describe properly how the baseline scenario for each of the corresponding CPAs was established in accordance with the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents. Refer to paragraph 102 of the PS-PoA version 2.0 Section I.5 of the generic components of cases 03 and 05 states that "The CPA only applies to displace electricity from an electricity distribution system that is or would have been supplied by at least national or regional grid, fossil fuel fired captive power plant or carbon intensive mini grid". For case 03, however, the consumption of electricity from a fossil fuel fired captive power plant is not envisaged in the applicability conditions. For case 05, the compliance with the footnote 1 of AMS-I.F version 3.0 shall be met if electricity is consumed from a fossil fuel fired captive power plant in the absence of the project.</p> <p>3: The coordinating/managing entity did not describe how the data and parameters that will not be monitored but are determined before the registration of the proposed PoA and remain fixed throughout the PoA period were determined. Please refer to paragraph 112 of the PS-PoA version 2.0 The baseline emission factor for captive electricity generation equals to 0.4 tCO₂/MWh was conservatively sourced from Scenario B, option B2(b) of the "TOOL03 : Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". However, Scenario B is relevant for projects consuming electricity from an off-grid captive power plant whereas footnote 1 of AMS-I.F states that the users of the captive electricity are also connected to the grid in the project site.</p> <p>4: The coordinating/managing entity did justify the methodological choices for different scenarios, cases or options to calculate emission reductions. Please refer to paragraph 109 of the PS-PoA version 2.0. Section I.6.1 of the generic components of cases 03 and 05 contain an option to determine the emission factor from electricity consumed form off-grid fossil fuel fired captive power plant(s) – Option 3 emission factor. For case 03, the consumption of electricity from an off-grid fossil fuel fired captive power plant is not envisaged in the applicability conditions. For case 05, the consumption of electricity from an off-grid fossil fuel fired captive power plant is not in compliance with the footnote 1 of AMS-I.F version 3.0.</p> <p>5: The eligibility criteria does not cover the conditions to ensure compliance with the applicability of the applied methodologies. Please refer to paragraph 124(f) of the PS-PoA version 2.0. For Cases 03 and 05, the eligibility criteria 6 states that the one of the conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents is that the project will compromise of only AMS I.F, where it will be connected to isolated grid (among other options). This is not consistent with footnote 1 of AMS-I.F which states that the users of the captive electricity are also connected to the grid in the project site.</p> <p>6: The DOE did not assess how each eligibility criterion is defined in accordance with the applicable requirements in the "CDM project standard for programme of activities", and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA. Please refer to paragraph 137 of the VVS-PoA version 2.0 For Cases 03 and 05, the eligibility criteria 6 states that the one of the conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents is that the project will compromise of only AMS I.F, where it will be connected to isolated grid (among other options). This is not consistent with footnote 1 of AMS-I.F which states that the users of the captive electricity are also connected to the grid in the project site.</p>				
CME response				Date: 04/12/2020
<p>1. For case 05, page 103, the original compliance status to the first applicability condition (i.e. paragraph 2 of methodology AMS-I.F) has been removed and replaced with: The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which falls under below applicability criteria options (a) "Supplying electricity to a national or a regional grid" and /or (b) Fossil fuel fired captive power plant</p>				

(c) A carbon intensive mini-grid

Hence the CPA under PoA meets the given applicability criterion.

2. For case 03 on page 61, and case 05 on page 103, the applicability condition has been amended to include footnote 1 of AMS-I.F, and the compliance status reads that it will follow as such and is justified.

Compliance status now reads as:

"The CPA under PoA will be a Renewable Energy Project (i.e. solar photovoltaic) which will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e. in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below:

(a) A national or a regional grid (grid hereafter);

(b) Fossil fuel fired captive power plant. Users of such electricity will also be connected to the grid, in compliance with footnote 1 of AMS-I.F version 3.0 methodology / footnote 11 of this PDD,

(c) A carbon intensive mini-grid

Hence the CPA under PoA meets the given applicability criterion."

3. For Case 3 (page 68) and case 5 (page 110) where for option 3 emission factor, it has been revised to:

"For option 3 of emission factor, latest version of the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" Version 03 is referred. As per tool, Scenario C is applicable (Case C.III), because this Option 3 of emission factor from captive electricity generation also has to include users being connected to grid electricity in the baseline scenario (as per footnote 1 of AMS-I.F version 3.0)

Scenario C: Case C.III: Electricity consumption both the grid and fossil fuel fired captive power plant(s).

As per paragraph 31 of the tool, where this case C.III has been identified as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.

-Scenario A: Emission factor for electricity generation from grid: 0.89625 tCO₂/MWh (see option 1 procedure above)

-Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 02", where a value of 0.4 tCO₂/MWh is chosen as the emission factor

Hence, the more conservative value chosen between Scenario A and B for this case would be 0.4 tCO₂/MWh"

Revised table for Data/Parameter EF_{captive} on page 70 (Case 03) and page 112 (Case 05) to reflect the source of data and justification for choice made.

4. Case 3 (page 68) and case 5 (page 110) where for option 3 emission factor, it has been revised to:

"For option 3 of emission factor, latest version of the methodological tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" Version 03 is referred. As per tool, Scenario C is applicable (Case C.III), because this Option 3 of emission factor from captive electricity generation also has to include users being connected to grid electricity in the baseline scenario (as per footnote 1 of AMS-I.F version 3.0)

Scenario C: Case C.III: Electricity consumption both the grid and fossil fuel fired captive power plant(s).

As per paragraph 31 of the tool, where this case C.III has been identified as a conservative approach, the emission factor for electricity generation should be the more conservative value between the emission factor determined as per scenario A and B respectively.

-Scenario A: Emission factor for electricity generation from grid: 0.89625 tCO₂/MWh (see option 1 procedure above)

-Scenario B: Emission factor for electricity generation from captive power plant: CPA selects Option B2 (b) as per para 28 of tool "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" version 02", where a value of 0.4 tCO₂/MWh is chosen as the emission factor

Hence, the more conservative value chosen between Scenario A and B for this case would be 0.4 tCO₂/MWh"

Revised table for Data/Parameter EF_{captive} on page 70 (Case 03) and page 112 (Case 05) to reflect the source of data and justification for choice made.

5. Eligibility criteria 6 on page 78 (Case 03) and page 119 (Case 05) has been amended to include that the users of the captive electricity are also connected to the grid. It reads as:

4(b) "Fossil fuel fired captive power plant Users of such captive electricity will also be connected to the grid in the project site, as per footnote 1 of AMS-I.F ver 3.0"

Eligibility criteria 6 on page 78 (Case 03) and page 119 (Case 05) has been amended to include the supporting evidence for users being supplied with electricity from sources of grid, fossil fuel fired captive power plants and carbon intensive mini-grid.

6. Not applicable

Documentation provided by CME

Revised PoA DD, version 04

DOE assessment

Date: 04/12/2020

1. The CM/E has revised the assessment of the compliance status contained in the second row of the table of item I.2 (page 103). The validation team has reviewed and found that this assessment consistent with paragraph 2 of methodology. The CM/E had correctly demonstrated that the selected methodologies are applicable to the corresponding CPAs by showing that the design of the generic CPA meets all applicability conditions of these regulatory document as the requirement of paragraph 91 of the PS-PoA version 2.0.

2. The DOE has reviewed and confirmed that the with the revision, the coordinating/managing entity did describe properly how the baseline scenario for each of the corresponding CPAs was established in accordance with the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents as per paragraph 102 of the PS-PoA version 2.0.

3. The DOE has reviewed the explanation of baseline emission factor for captive electricity generation which equals to 0.4 tCO₂/MWh and confirmed that this has been correctly applied of the TOOL "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" and reflect the requirement of footnote 1 of AMS-I.F states that the users of the captive electricity are also connected to the grid in the project site.

4. The DOE has reviewed revised Section I.6.1 of the generic components of cases 03 and 05, the determination of the emission factor from electricity consumed from off-grid fossil fuel fired captive power plant(s) – Option 3 emission factor and confirmed that this has been correctly applied of the TOOL "Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" and reflect the requirement of footnote 1 of AMS-I.F states that the users of the captive electricity are also connected to the grid in the project site.

5. The CME has revised the eligibility criteria 6 on page 78 (Case 03) and page 119 (Case 05) has been amended to include that the users of the captive electricity are also connected to the grid. It reads as: 4(b) "Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid in the project site, as per footnote 1 of AMS-I.F ver 3.0"

The supporting evidence for inclusion criteria was also updated to make sure it is objective and comprehensive to allow assessment and inclusion of the CPA.

The DOE has been reviewed and confirmed that this has cover all the conditions to ensure compliance with the applicability of applied methodologies as per paragraph 124f) of PS-PoA Version 2.0.

6. The CME has revised the eligibility criteria 6 on page 78 (Case 03) and page 119 (Case 05) has been amended to include that the users of the captive electricity are also connected to the grid. It reads as: 4(b) "Fossil fuel fired captive power plant. Users of such captive electricity will also be connected to the grid in the project site, as per footnote 1 of AMS-I.F ver 3.0"

The supporting evidence for inclusion criteria was also updated to make sure it is objective and comprehensive to allow assessment and inclusion of the CPA.

All of the changes were also updated in the Final Validation Report of the PoA. The DOE has been reviewed and confirmed that this has cover all the conditions to ensure compliance with the applicability of applied methodologies as per paragraph 1239f) of PS-PoA Version 2.0. The DOE has assessed how each eligibility criterion is defined in accordance with the applicable requirements in the "CDM project standard for programme of activities", and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA as per paragraph 137 of the VVS-PoA version 2.0

CAR 22 is closed

Table 3. FARs from this validation

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
<i>Not applicable</i>				
CME response				Date: DD/MM/YYYY
-				
Documentation provided by CME				
<i>Not applicable</i>				
DOE assessment				Date: DD/MM/YYYY
<i>Not applicable</i>				

Appendix 5.PoA Validation Protocol

Table 1: CDM-POA-DD Requirements Checklist ((based on § 37 of the CDM Modalities and Procedures and on VVS , Project Standard and Project Cycle Procedure)				
Checklist	Comment	Ref.	Draft Conclusion	Final Conclusion
PART I. Programme of activities (PoA)				
SECTION A. General description of PoA				
A.1. Title of the PoA				
A.1.1.Are title, version number and the date of completion of PoA-DD given in section A.1 of the PoA-DD?	Yes, the validation team during document review of the PoA-DD and PoA-DD template compared the two documents and further verified from UNFCCC website to confirm that the project title, current version number and the date of the PoA-DD has been provided correctly in the section A.1 of the PoA-DD.	/01/ /02/ /B03/	OK	OK
A.2. Description of the PoA				
A.2.1. Has PoA-DD in section A.1 contains the description of the policy/measure or stated goal that the <u>PoA seeks</u> to promote in a transparent manner with sufficient reference of the policy/measure/stated goal if any?	Yes, the information contained provides a sufficient description of the policy/ measure or stated goal.	/01/ /02/	OK	OK
A.2.2. Has PoA-DD in section A.1 contains a sufficient description of Framework for the implementation of the proposed PoA.?	Yes, the information contained provides a sufficient description of the framework for the implementation of the proposed PoA.	/01/ /02/	OK	OK
A.2.3.Has a confirmation been given that the proposed PoA is a voluntary action by the coordinating/managing entity?	Yes, the CME has provided confirmation along with valid evidence along with valid evidence ^{05/} that the proposed PoA is a voluntary action.	/01/ /02/	OK	OK
A.2.4. Does the PoA-DD in section A.1 contains a brief description of how the proposed PoA contributes to sustainable development	Not yet CL 01 was raised	/01/ /02/ /03/	CL-01	OK
A.2.5.Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?	Yes	-	-	-

A.2.6. Has the latest version of the CDM-POA-DD form been applied?	No, the latest version of the CDM-PoA-DD-FORM hasn't been used for the PoA-DD. CAR 20 was raised	/01/ /02/ /B03/	CAR-20	OK
A.2.7. Has the CDM-POA-DD been duly filled in accordance with the latest guidance(s) and procedures and all information are consistently described?	Not yet CL 01, CAR 01, CAR 02, CAR 21 was raised	/01/ /02/ /B03/	CL01; CAR01; CAR02; CAR 21	OK
A.2.8. Does the PoA-DD contains information that the CME wish to treat as confidential /proprietary? Has the proprietary information been provided in two different versions and considered as per CCIPL's procedures	No, the PoA-DD does not contain information that the CME wish to treat as confidential or proprietary.	/01/ /02/	OK	OK
A.3. CME and Participants of PoA				
A.3.1 Has the CME and all project participants been listed in section A.4 of the PoA-DD? Note: The CME of the proposed PoA, as the entity which communicates with the Board; Project participants to the PoA (project participants may or may not be involved in one of the component project activities (CPAs) related to the PoA).	Yes, the validation team reviewed the PoA-DD and found that the section A.3 has listed the CME and PPs.	/01/ /02/	OK	OK
A.4 Party(ies)				
A.4.1.1 Have all host countries been correctly listed?	Yes, the PoA-DD has indicated host country in the section CL 02 was raised	/01/ /02/	CL-02	OK
A.4.1.2 Is there any Party directly involved as project participant, and if yes, is that Party's contact details included in annex 1 of the PoA-DD?	N/A	/01/ /02/	OK	OK
A.4.1.3 Has the coordinating/managing entity obtained letters of approval for the implementation of the PoA from each Host Party and Annex I Party involved in the PoA? <i>Note: Letters of approval shall be issued in accordance with the guidance provided by the CDM Executive Board (EB16, Annex 6).</i>	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.2. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.3. Are the approvals issued from organizations listed as DNAs on the UNFCCC CDM website?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK

Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.				
A.4.4. Do the written approvals confirm that the participation is voluntary?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the /PoA-DD/country?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.6. Do the written approvals refer to the precise project title in the PoA-DD submitted for registration or an additional specification of the project activity, e.g. PoA-DD version number?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.7. Are the written approvals unconditional with regard to A.3.2, A.3.4 to A.3.6?	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.8. Has the coordinating/managing entity obtained letters of authorization of its coordination of the PoA from each Host Party? <i>The authorizations for the coordination of the PoA can be granted vide the letters of approval from each Host Party.</i>	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.9. Is the information regarding the project participants listed in section A3 and in Annex 1 of the PoA-DD internally consistent to each other?	Yes, the information regarding the project participants listed in section A.3 and in Annex 1 of the PoA-DD is internally consistent to each other.	/01/ /02/	CAR-09	OK
A.4.10. Has the participation to the PoA of each project participant listed in the PoA-DD been approved by at least one Party involved? <i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol. Describe the means of validation employed to draw this conclusion.</i>	Not yet CAR 09 was raised	/01/ /02/	CAR-09	OK
A.4.11. Are there any other project participants approved but not listed in the PoA-DD?	N/A	/01/ /02/	-	-
A.5 Location of PoA				
A.5.1. Has the location (in terms of a geographical area for e.g. municipality, region within a country, country or several countries within which all CPAs to be included of the PoA been correctly described?	Yes, the validation team confirms that the host country (Vietnam) is listed in section A.5 of the webhosted PoA-DD as the location of the PoA.	/01/ /02/	OK	OK
A.5.2 Does the CDM-PoA-DD include a definition of the boundary for the PoA in terms of a geographical area (e.g., municipality,	Yes, the validation team confirms that PoA-DD has included the national	/01/ /02/	OK	OK

region within a country, country or several countries) within which all CPAs included in the PoA will be implemented?	boundary of Vietnam within all future CPAs shall be implemented.			
A.5.3 Are all applicable national and/or sectoral policies and regulations within that chosen boundary reflected in the determination of the baseline?	No, the all applicable national and/or sectoral policies and regulations within chosen boundary has not yet been reflected in the determination of baseline. CAR 15 was raised	/01/ /02/	CAR-15	OK
A.6. Technologies/measures of the PoA				
A.6.1 Does the PoA-DD contain a clear, accurate and complete description of the CPAs with regard to the technology / measures to be used?	The PoA-DD does not contain a clear, accurate and complete description of the CPAs with regard to the technology / measures to be used. CAR 10 was raised	/01/ /02/	CAR-10	OK
A.6.2 Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	Yes, the project is new grid-connected renewable energy power plants within Vietnam and will cover the solar photovoltaics energy technologies. The technology results in a significantly better environmental performance and contributes more to sustainability than any commonly used technologies in the host country.	/01/ /02/	OK	OK
A.7. Public funding of PoA				
A.7.1 Is the PoA involves public funding?	No, the validation team reviewed the PoA-DD and Declaration on public funding/ and confirms that PoA does not involve diversion of public funding from Annex-I parties.	/01/ /02/	OK	OK
A.7.2 Is there a confirmation that official development assistance has not been diverted to the implementation of the PoA in case public funding is used?	No public funding	/01/ /02/	OK	OK
SECTION B. Demonstration of additionality and development of eligibility criteria				
B.1. Demonstration of additionality for PoA				
B.1.1 Has it been demonstrated by the CME that describe how in the absence of CDM, none of the implemented CPAs would	Yes. CME has demonstrated additionality of the PoA in line with	/01/ /02/ /B01/	OK	OK

occur.	"Standard- CDM Project Standard for Programme of Activities", version 02.0.			
B.2. Eligibility criteria for inclusion of a CPA in the PoA				
<p>B.2.1. Has the eligibility criteria for inclusion of a CPA under the PoA included in the PoA-DD as per "Standard- CDM Project Standard for Programme of Activities", version 02.0.</p> <p>Note: Validation team based on its expertise in the sectoral scope and any PoA specific requirement can confirm the requirement of any other eligibility criteria. Please provided assessment for each of the eligibility criteria, the eligibility criteria shall cover as a minimum the following :</p>	<p>Subject to closure of CL 03 CL 03 was raised</p>	/01/ /02/ /B01/	CL-03	OK
<p>(a)The geographical boundary of the CPA including any time-induced boundary # consistent with the geographical boundary set in the PoA.</p> <p># For example, an emission factor for electricity generation is dependent on the boundaries of regional or state or sub-regional grids.</p>	<p>The geographical boundary of the PoA is Vietnam and has been clearly defined in the eligibility criteria.</p>	/01/ /02/ /B01/	OK	OK
<p>(b) Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo);</p>	<p>Subject to closure of CL 03 CL 03 was raised</p>	/01/ /02/ /B01/	CL-03	OK
<p>(c) The specifications of technology/measure # including the level * and type of service, performance specifications including compliance with testing/certifications;</p> <p># Specifications of the technology/measure shall include the type, capacity and other key features of the design of the systems. For example, indicating the installed capacity (in kW), size or dimensions, fixed/portable operation, and other key design features that makes the project cook stoves efficient, would be appropriate; however, only indicating that all cook stoves will have an efficiency X% would not be sufficient.</p> <p>* The level of service shall be defined in comparison with the baseline system being replaced.</p>	<p>Subject to closure of CL 03 CL 03 was raised</p>	/01/ /02/ /B01/	CL-03	OK
<p>(d) Conditions to check the start date of the CPA through documentary evidence;</p>	<p>Subject to closure of CL 03 CL 03 was raised</p>	/01/ /02/ /B01/	CL-03	OK

(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs;	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
(f) The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality as assessed in section B.1 above;	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis;#	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
# See also relevant paragraphs of “CDM project cycle procedure”.				
(h) Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance;	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation) \$;	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
\$ This is to re-test the validity of assumptions made at the PoA level. For example, in a lighting efficiency application, lighting usage hours of 3.5 hours per day would be valid if the target group is residences/households. Usage hours would be different in commercial applications and vice versa.				
(j) Where applicable, the conditions related to sampling requirements for the PoA in accordance with the “Standard for sampling and surveys for CDM project activities and programme of activities”;	Not applicable	/01/ /02/ /B01/	NA	NA
(k) Where applicable, the conditions that ensure that every CPA meets the small- scale or microscale threshold # and remains within those thresholds throughout the crediting period of the CPA. However, for a CPA that consists of only units that qualify as ‘microscale CDM units’ as defined in the methodological tool “Demonstration of additionality of microscale project activities”, this condition is not required;	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL-03	OK
# Please refer to the latest approved version of the Standard-CDM Project Standard for Programme of Activities”				
(l) Where applicable, the requirements for the debundling check,	Subject to closure of CL 03	/01/ /02/ /B01/	CL-03	OK

in case the CPA belongs to small-scale or microscale project categories #. However, if a CPA solely consists of 'microscale CDM units', the requirement regarding debundling is not applicable.	CL 03 was raised	/B01/		
# Please refer to the latest approved version of Standard- CDM Project Standard for Programme of Activities"				
B.3. Application of methodologies				
B.3.1 Does the PoA-DD contains description of the technology/measures and indicated the methodology chosen?	Not yet, PoA-DD haven't included the description of the technologies/measures as appropriate and in conformance with the requirements of the PoA-DD form filling guidelines. CAR 10 was raised	/01/ /02/ /B02/	CAR-10	OK
B.3.2 In cases of multiple technologies/measures or multiple methodologies are being applied, does the PoA-DD list all the combinations of technologies/measures and methodologies that will be used in the PoA?	N/A	/01/ /02/	NA	NA
B.3.3 In case of sampling plan (If applicable), does the PoA-DD provide a description to demonstrate how it meets applicable provisions in the Standard for sampling and surveys for CDM project activities and programme of activities.	Not applicable	/01/ /02/	NA	NA
SECTION C. Management system				
C.1 Does the PoA-DD contains the description of the CME's management system in line with Standard- CDM Project Standard for Programme of Activities"?	The description of management system provided by CME in section C of the PoA-DD is not sufficient and complete in regards to the requirements of latest version of the project standard. CAR 19 was raised	/01/ /02/ /B01/	CAR-19	OK
SECTION D. Duration of PoA				
D.1. Starting Date of the PoA				
D.1.1. What is the starting date of the PoA? Is it Reasonable and does the PoA-DD provides how the start date was determined?	Start date have been clearly defined and in accordance with the CDM Glossary term, Ver 10.0 CAR 03 was raised	/01/ /02/ /B01/	CAR-03	OK
D.2. Length of the PoA	The validation team confirms that the	/01/ /02/	OK	OK

<i>The length of the PoA shall be assessed</i>	length of the PoA, as mentioned in section D.2 of the webhosted PoA-DD, is 28 years and in conformance with the requirements stipulated in CDM PS version 02.0.	/B01-b/		
D.2.1. What is the length/lifetime of the PoA? Is it reasonable? <i>PoA duration should not exceeding 28 years (60 years for A/R)</i>	The validation team confirms that the length of the PoA, as mentioned in section D.2 of the webhosted PoA-DD is 28 years and deemed to be reasonable. This is and in conformance with the requirements stipulated in CDM PS version 02.0.	/01/ /02/ /B01-b/	OK	OK
E. Environmental Analysis				
E.1. Level of Analysis <i>The analysis shall be carried out either on PoA or CPA level</i>				
E.1.1.Has it been clearly indicated on which level i.e. PoA or CPA an environmental Analysis has been carried out or will be carried out?	Yes, it has been clearly stated in section E of the PoA-DD that the environmental analysis is done at PoA level. The validation team deems it to be appropriate and in conformance with the requirements of the CDM PS, Version 02.0. However, the justification of choice is not clearly documented. CAR 04, CAR 05, CAR 06 was raised	/01/ /02/ /B01-b/	CAR-04; CAR-05; CAR-06	OK
E.2. Documentation on the analysis of the environmental impacts				
C.2.1. Has an environmental analysis of the PoA as per requirements of the CDM modalities and procedures been undertaken and described in the CDM-POA-DD?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /B01-b/	OK	OK
E.3 Environmental impact Analysis Requirements				
E.3.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)?	Depend on project capacity, the requirement for Environmental Impact Assessment is different.	/01/ /02/ /B01-b/	OK	OK
E.3.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /B01-b/	N/A	N/A

E.3.3. Are trans boundary environmental impacts considered in the analysis?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /B01-b/	OK	OK
F. Stakeholders' comments				
F.1. Level of Analysis				
F.1.1. Has it been clearly indicated on which level i.e. PoA or CPA stakeholder comments have been or will be invited?	Yes, it has been clearly stated in section E of the PoA-DD that the local stakeholder consultation has been at CPA level. However, the justification of choice is not clearly documented. CAR 07; CAR 08 was raised.	/01/ /02/ /09/ /B01-b/	CAR-07; CAR-08	OK
F.2. Brief description how comments by local stakeholders have been invited and compiled.				
F.2.1. With regard to the PoA, how have local stakeholders' comments been invited prior to the publication of the PDDs and summarized? If applicable, was due account taken of the comments received?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /09/ /B01-b/	N/A	N/A
F.3. Summary of the comments received				
F.3.1. With regard to the PoA, can the summary provided assessed as adequate?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /09/ /B01-b/	N/A	N/A
F.4. Report on how due account was taken of comments received				
F.4.1. With regard to the PoA, can the report provided assessed as adequate?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /09/ /B01-b/	N/A	N/A
F.4.2. With regard to the PoA, can the local stakeholder consultation process in general be assessed as adequate?	Environmental Impact Assessment will be conducted at CPA level	/01/ /02/ /09/ /B01-b/	N/A	N/A
SECTION G. Approval and authorization				
G.1 Does the PoA-DD indicates and included the letter(s) of approval from Party (ies) which wishes to be involved in the PoA, and whether it is available at the time of submitting the PoA-DD to the validating DOE. Note: CME letters of authorization of its coordination of the PoA from each Party shall also been included.	Not yet CAR 09 was raised	/01/ /02/	CAR 09	OK
PART II. Generic component project activity (CPA)				

A.1. Purpose and general description of generic CPAs				
A.1.1 Has PoA-DD in section A.1 contains the description of the description of each generic CPA within the PoA?	PP has provided a separate generic CPA-DD for each of the proposed technology/measure in the PoA, however, the description is not in accordance with the requirements of CDM Project Standard, Version 02.0. CAR 10, CAR 11 were raised	/01/ /02/	CAR 10, CAR 11	OK
SECTION B. Application of a baseline and monitoring methodology				
B.1.1. Does the PoA apply an approved and applicable CDM methodology and a valid version thereof?	Yes, the validation team confirms that the PoA-DD refers to an approved and valid version of the applicable CDM methodologies.	/01/ /02/ /B02/	OK	OK
B.1.2. Does the typical CPA apply one of the approved small scale categories and any methodology and tool referred therein?	Yes	/01/ /02/ /B02/	OK	OK
B.2. Justification of the choice of the methodology				
B.2.1. Is the justification of the choice of an approved baseline and monitoring methodology for the typical CPA sufficient?	Yes, the justification of the choice of an approved baseline and monitoring methodologies for the typical CPA is found to be sufficient. However, the text present is not matching with the applied methodologies CAR 13 was raised	/01/ /02/ /B02/	CAR 13	OK
B.2.2. Does a typical CPA apply a combination of approved methodologies? If so, has such combination been approved only once in accordance with "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities", version 04.	N/A	/01/ /02/ /B02/	NA	OK
B.2.3. Are all applicability criteria in the methodology, the applied tools or any other methodology component referred to therein fulfilled? Has the CME Justified the choice of the selected methodology (ies) by showing that each generic CPA meets each applicability condition of the methodology (ies)? Does documentation that has been used as a basis of justification provided or referenced in the PoA-DD. If applicable, does the PoA-DD provide a general description of the sampling plan?	Not yet CAR 12 was raised	/01/ /02/ /B02/	CAR 12	OK
B.3. Description of the sources and gases included in the boundary				

B.3.1. Are the CPA's spatial boundaries (geographical) of the CPAs to be included are clearly defined?	Yes, geographical special boundaries of the CPAs to be included are clearly defined.	/01/ /02/ /B02/	OK	OK
B.3.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?	Yes, all sources and GHGs included in the project boundary are as required in the applied methodologies. However the diagram the emissions sources and GHGs included in the project boundary and the data and parameters to be monitored was not indicated yet. CAR 14 was raised	/01/ /02/ /B02/	CAR 14	OK
B.3.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?	Not yet CAR 14 was raised	/01/ /02/	CAR 14	OK
B.4. Description of how the baseline scenario is identified and description of baseline scenario				
<i>The description shall be assessed</i>				
B.4.1. Does the PoA-DD make provisions to identify possible baseline scenarios to be considered for CPAs?	Yes, the baseline scenario has been demonstrated in conformance with the appropriate requirements of the applied methodology. CAR 15 was raised	/01/ /02/ /B02/	CAR 15	OK
B.4.2. Does the PoA-DD make provisions to identify the list of all the alternatives? Is the list of alternatives complete?	NA	/01/ /02/	OK	OK
B.4.3. Does the PoA-DD make provisions to identify the baseline scenario for each CPA?	NA	/01/ /02/	OK	OK
B.4.4. Does the PoA-DD make provisions to identify the baseline scenario according to the methodology for each CPA?	NA	/01/ /02/	OK	OK
B.4.5. Does the PoA-DD make provisions that any plausible alternative scenario is not excluded?	NA	/01/ /02/	OK	OK
B.4.6. Does the baseline alternatives sufficiently take into account relevant national and/or sectoral policies?	NA	/01/ /02/	OK	OK
B.4.7. Are the provisions for the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	NA	/01/ /02/	OK	OK
B.5. CPA additionality				

B.5.1. Assessment and demonstration of CPA additionality	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL03	OK
B.5.1.1. Does the PoA-DD makes provisions to describe the additionality demonstration approach for each generic CPA to meet the eligibility criteria of the PoA including confirmation of additionality of the generic CPA for its inclusion into the PoA. Does the demonstration follows the requirements of the applied methodology and/or other methodological tools? Note: Refer to “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities, for additionality requirement for the PoA. In case of PoA of having small scale CPAs, the demonstration compliance shall be checked against the requirement of attachment A to appendix B. For PoAs utilizing large scale methodology, additionality tool shall be referred.	Yes	/01/ /02/ /B01/	OK	OK
B.5.1.2. Which criteria have been established to assess the additionality of CPA under this PoA?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/ /B01/	CL03	OK
Investment Analysis				
B.5.1.3. Does the PoA-DD provide criteria to assess that the proposed CPA of the PoA would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.4. Is the type of investment analysis selected correctly?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.5. Is the selected financial indicator chosen and applied correctly, if applicable?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.6. If applicable, were the input values used in the investment analysis valid and applicable at the time of the investment decision and justified?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.7. If CME proposes to use values from Feasibility Study Reports (FSR) is it possible to verify that the period between the FSR date and investment decision was reasonably short and FSR values did not change materially?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.8. Is it reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants or some verifiable circumstances that have lead to a change in the benchmark?	Subject to closure of CL 03 CL 03 was raised	/01/ /02/	OK	OK
B.5.1.9. Is the Investment Analysis prepared in compliance with	Subject to closure of CL 03	/01/ /02/	OK	OK

the latest version of the "Guidance on the Assessment of Investment Analysis" as provided by the CDM EB?	CL 03 was raised			
Barrier Analysis				
B.5.1.10. If applicable, are there any issues addressed in the barrier analysis that have a clear impact on the financial viability of the project activity and that shall be assessed by an investment analysis?	NA	/01/ /02/	OK	OK
B.5.1.11. If applicable, Do the listed barriers exist and is their existence substantiated? Note: (a) by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics and/or (b) by interviews with relevant individuals: including members of industry associations, government officials or local experts if necessary?	NA	/01/ /02/	OK	OK
B.5.1.12 Would any of the identified barriers prevent the implementation of the project activity but not equally prevent the implementation of the possible alternatives, in particular the implementation of the identified baseline scenario?	NA	/01/ /02/	OK	OK
Common Practice Analysis				
B.5.1.13. Are the geographical boundaries for the common practice analysis identified correctly?	NA	/01/ /02/	OK	OK
B.5.1.14. Does the PoA-DD provides an explanation why this region was selected and deemed more appropriate and is this explanation traceable and reliable?	NA	/01/ /02/	OK	OK
B.5.1.15Are there similar operational project activities, other than CDM activities, "widely observed and commonly carried out" in the defined region? Note: Use official sources and local and industry expertise?	NA	/01/ /02/	OK	OK
B.5.1.16. In case there are similar commercially operated project activities, other than CDM activities, already "widely observed and commonly carried out" in the defined region, are there essential distinctions between the CDM project activity and the other similar activities?	NA	/01/ /02/	OK	OK
B.6. Estimation of Emission Reductions of CPA				
B.6.1. Explanation of methodological choices				
B.6.1.1. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?	Yes, the explanation for methodologies choices was justified appropriately. However, for case 3 & 5 (applied AMS-I.F version 03.0)	/01/ /02/ /B02/	CAR 17	OK

	there is no clear justification for emission reduction calculation choices. CAR 17 was raised			
B.6.2. Equations, including fixed parametric values used for ER calculation				
B.6.2.1. Are the equations applied correctly according to the applied approved methodology?	No, the validation team reviewed the PoA-DD and after comparing it with the applied methodologies confirms that the equations provided in section B.6.1 have not yet been appropriately applied and in conformation with the applied methodologies. CAR 17 was raised	/01/ /02/ /B02/	CAR-17	OK
B.6.2.2. Have conservative assumptions been used when calculating the project emissions?	No, the validation team found that the equation has been used to calculate project emissions is not accordance to the TOOL CAR 17 was raised	/01/ /02/ /B02/	CAR-17	OK
B.6.3. Data and parameters to be reported in the CPA-DD form				
B.6.3.1. Are provisions made to identify all data and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?	No, all data and parameters, which remain fixed throughout the crediting period not yet have been identified in this section. Value(s) applied and source of data haven't indicated yet. CAR 17 was raised	/01/ /02/ /B02/	CAR-17	OK
B.6.3.2. Is the list of parameters presented in section I.6.2 (Part II of PoA-DD) considered to be complete with regards to the requirements of the applied methodology? <i>P.S.: Provide assessment for each of the ex-ante parameters below using separate rows.</i>	Not yet, the PoA-DD haven't mentions values for all ex-ante calculation / monitoring parameters. CAR 17 was raised	/01/ /02/ /B02/	CAR-17	OK
Case 1: Generic component project activity for Large-Scale Grid Connected CPAs (LGC) Case 2: Generic component CPA for Small-Scale Grid Connected CPAs (SGC) Case 3: Generic component CPA for Small-Scale Captive Consumption CPAs (SCC) Case 4: Generic component CPA for Micro-Scale Grid Connected CPAs (MGC) Case 5: Generic component CPA for Micro-Scale Captive Consumption CPAs (MCC)				
B.6.3.2.1. Operating Margin CO2 emission factor in year y EF _{grid,OM,y}	Monitoring Checklist	Yes / No / NA	/01/ /02/ CAR-17	OK

	Title and description in line with methodology?	No			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	No			
	Correct value provided for estimation?	No			
	Has this value been verified?	NA			
	Measurement method and procedure correctly described?	N/A			
	Purpose of data correctly described	Yes			
	Additional comments (if any)	N/A			
B.6.3.2.2. Build Margin CO2 emission factor in year y EF _{grid,BM,y}	Monitoring Checklist	Yes / No / NA	/01/ /02/	CAR-17	Ok
	Title and description in line with methodology?	No			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	No			
	Correct value provided for estimation?	No			
	Has this value been verified?	N/A			
	Measurement method and procedure correctly described?	N/A			

	<table border="1"> <tr> <td>Purpose of data correctly described</td><td>yes</td></tr> <tr> <td>Additional comments (if any)</td><td>N/A</td></tr> </table>	Purpose of data correctly described	yes	Additional comments (if any)	N/A																	
Purpose of data correctly described	yes																					
Additional comments (if any)	N/A																					
B.6.3.2.3. Combined Margin CO2 emission factor in year y $EF_{grid,CM,y}$	<table border="1"> <tr> <td>Monitoring Checklist</td><td>Yes / No / NA</td></tr> <tr> <td>Title and description in line with methodology?</td><td>No</td></tr> <tr> <td>Data unit correctly stated?</td><td>Yes</td></tr> <tr> <td>Source clearly referenced?</td><td>No</td></tr> <tr> <td>Correct value provided for estimation?</td><td>No</td></tr> <tr> <td>Has this value been verified?</td><td>N/A</td></tr> <tr> <td>Measurement method and procedure correctly described?</td><td>N/A</td></tr> <tr> <td>Purpose of data correctly described</td><td>yes</td></tr> <tr> <td>Additional comments (if any)</td><td>N/A</td></tr> </table>	Monitoring Checklist	Yes / No / NA	Title and description in line with methodology?	No	Data unit correctly stated?	Yes	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	N/A	Measurement method and procedure correctly described?	N/A	Purpose of data correctly described	yes	Additional comments (if any)	N/A	/01/ /02/	CAR-17	OK
Monitoring Checklist	Yes / No / NA																					
Title and description in line with methodology?	No																					
Data unit correctly stated?	Yes																					
Source clearly referenced?	No																					
Correct value provided for estimation?	No																					
Has this value been verified?	N/A																					
Measurement method and procedure correctly described?	N/A																					
Purpose of data correctly described	yes																					
Additional comments (if any)	N/A																					
Case 3: Generic component CPA for Small-Scale Captive Consumption CPAs (SCC) Case 5: Generic component CPA for Micro-Scale Captive Consumption CPAs (MCC)																						
B.6.3.2.4. Emission factors for diesel generator systems $EF_{diesel\ generators}$	<table border="1"> <tr> <td>Monitoring Checklist</td><td>Yes / No / NA</td></tr> <tr> <td>Title and description in line with methodology?</td><td>No</td></tr> <tr> <td>Data unit correctly stated?</td><td>No</td></tr> </table>	Monitoring Checklist	Yes / No / NA	Title and description in line with methodology?	No	Data unit correctly stated?	No	/01/ /02/	CAR-17	OK												
Monitoring Checklist	Yes / No / NA																					
Title and description in line with methodology?	No																					
Data unit correctly stated?	No																					

	Source clearly referenced?	No			
	Correct value provided for estimation?	No			
	Has this value been verified?	No			
	Measurement method and procedure correctly described?	No			
	Purpose of data correctly described	No			
	Additional comments (if any)	No			
B.6.3.2.5. Emission factors for captive electricity generation EF _{captive}	Monitoring Checklist	Yes / No / NA	/01/ /02/	CAR-17	OK
	Title and description in line with methodology?	No			
	Data unit correctly stated?	No			
	Source clearly referenced?	No			
	Correct value provided for estimation?	No			
	Has this value been verified?	No			
	Measurement method and procedure correctly described?	No			
	Purpose of data correctly described	No			
	Additional comments (if any)	No			
B.7. Application of the monitoring methodology and description of the monitoring plan					

B.7.1. Data and parameters to be monitored by each CPA																						
B.7.1.1. Has the PoA-DD contains monitoring parameters for the CPAs? Are the means of monitoring of all parameters contained in the monitoring plan feasible and in accordance with the requirements of the applied methodology?	No, in this section monitoring parameters are not according to the requirements of the methodology. CAR 17 was raised.	/01/ /02/ /B02/	CAR 17	OK																		
B.7.1.2. Is the list of parameters presented in section I.7.1 (Part II of PoA-DD) considered to be complete with regards to the requirements of the applied methodology? <i>P.S.: Provide assessment for each of the ex-post parameters below using separate rows.</i>	Refer to section B.7.1.1.	/01/ /02/ /B02/	OK	OK																		
Case 1: Generic component project activity for Large-Scale Grid Connected CPAs (LGC)																						
Case 2: Generic component CPA for Small-Scale Grid Connected CPAs (SGC)																						
Case 4: Generic component CPA for Micro-Scale Grid Connected CPAs (MGC)																						
Parameter: $EG_{PJ,y}$ or $EG_{facility,y}$ Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)	<table border="1"> <thead> <tr> <th>Monitoring Checklist</th> <th>Yes / No / NA</th> </tr> </thead> <tbody> <tr> <td>Title and description in line with methodology?</td> <td>Yes</td> </tr> <tr> <td>Data unit correctly stated?</td> <td>Yes</td> </tr> <tr> <td>Source clearly referenced?</td> <td>Yes</td> </tr> <tr> <td>Correct value provided for estimation?</td> <td>N/A</td> </tr> <tr> <td>Has this value been verified?</td> <td>N/A</td> </tr> <tr> <td>Measurement method and procedure correctly described?</td> <td>Yes</td> </tr> <tr> <td>Purpose of data correctly described</td> <td>Yes</td> </tr> <tr> <td>Additional comments (if any)</td> <td>No</td> </tr> </tbody> </table>	Monitoring Checklist	Yes / No / NA	Title and description in line with methodology?	Yes	Data unit correctly stated?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method and procedure correctly described?	Yes	Purpose of data correctly described	Yes	Additional comments (if any)	No	/01/ /02/	OK	OK
Monitoring Checklist	Yes / No / NA																					
Title and description in line with methodology?	Yes																					
Data unit correctly stated?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided for estimation?	N/A																					
Has this value been verified?	N/A																					
Measurement method and procedure correctly described?	Yes																					
Purpose of data correctly described	Yes																					
Additional comments (if any)	No																					
Case 3: Generic component CPA for Small-Scale Captive Consumption CPAs (SCC)																						
Case 5: Generic component CPA for Micro-Scale Captive Consumption CPAs (MCC)																						
Parameter: $EG_{BL,y}$ Quantity of net electricity displaced in year y		/01/ /02/	OK	OK																		

(MWh/yr)	Monitoring Checklist	Yes / No / NA			
	Title and description in line with methodology?	Yes			
	Data unit correctly stated?	Yes			
	Source clearly referenced?	Yes			
	Correct value provided for estimation?	N/A			
	Has this value been verified?	N/A			
	Measurement method and procedure correctly described?	N/A			
	Purpose of data correctly described	Yes			
	Additional comments (if any)	Yes			
B.7.2. Description of the monitoring plan for a CPA:					
B.7.2.1 Has PoA-DD contains monitoring plan for a CPA in accordance with the approved monitoring methodology, and identified the monitoring provisions and data parameters a CPA has to apply/monitor?	Yes, the monitoring plan for a CPA contained in the PoA-DD is in accordance with the approved monitoring methodologies. The monitoring provisions and data parameters a CPA has to apply/monitor have been correctly identified.	/01/ /02/ /B02/ /B01-b/	OK	OK	
B.7.2.2. Are the QA/QC procedures described under monitoring appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?	No, the QA/QC procedures are not yet described under monitoring. CAR 16 was raised	/01/ /02/ /B02/	CAR-16	OK	
B.7.2.3. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?	Yes, all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation have been	/01/ /02/ /B02/	OK	OK	

	described clearly.			
B.8 Consistency check and font size				
B.8.1 Does the following key terms and their description is consistent within the various section of the PoA-DD?		/01/ /02/	OK	OK
<i>P.S.: Additional rows may be added if required.</i>				
B.8.1.1. CME and Participants of PoA	Yes	/01/ /02/	OK	OK
B.8.1.2. Description/ Technology or measures to be employed by the CPA	Yes	/01/ /02/	OK	OK
B.8.1.3. Target group (end users type)	Yes	/01/ /02/	OK	OK
B.8.1.4. Eligibility criteria for inclusion of a CPA	Yes	/01/ /02/	OK	OK
B.8.2. Is the font size in all the respective documents is as per the requirements of Instructions for filling out the programme design document form for small-scale/large scale CDM programmes of activities?	Yes	/01/ /02/	OK	OK

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none">•Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN);•Make editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	4 May 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: programme of activities, validation report		