




**Verification and certification report form for  
CDM programme of activities  
(Version 04.0)**

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

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the programme of activities (PoA)</b>	Gigawatt Global Programme of Activities UNFCCC ID: PoA10202		
<b>Version number(s) of the PoA-DD(s) to which this report applies</b>	5.0		
<b>Version number of the verification and certification report</b>	2.0		
<b>Completion date of the verification and certification report</b>	30/07/2021		
<b>Monitoring period number and duration of this monitoring period</b>	MP 3: 01/09/2018 - 31/12/2020 (inclusive of both days)		
<b>Number and version number of the monitoring report to which this report applies</b>	Number: 1 Version: 5.0		
<b>Coordinating/managing entity (CME)</b>	Gigawatt Global Cooperatief U.A		
<b>Host Parties</b>	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)	
	Rwanda	Yes	
<b>Applied methodologies and standardized baselines</b>	Methodologies: – ACM0002 Grid-connected electricity generation from renewable sources (version 16.0) – AMS-I.D. Grid connected renewable electricity generation (version 18.0). Standardized Baseline: – Not applied		
<b>Mandatory sectoral scopes</b>	1: Energy industries (renewable - / non-renewable sources)		
<b>Conditional sectoral scopes, if applicable</b>	-		
<b>Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report</b>	23,451 tCO <sub>2</sub> e		
<b>Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report</b>	Amount before 1 January 2013	Amount from 1 January 2013 until 31 December 2020	Amount from 1 January 2021
	-	20,035 tCO <sub>2</sub> e	-
<b>Name and UNFCCC reference number of the</b>	TÜV NORD CERT GmbH		

DOE	E-0022
Name, position and signature of the approver of the verification and certification report	 Alexandra Nuske Senior Assessor

## SECTION A. Executive summary

The Gigawatt Global Cooperatief U.A has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 3rd periodic verification of the Programme of Activities:

### “Gigawatt Global Programme of Activities”

with regard to the relevant requirements for CDM project activities.

This verification covers the monitoring period from 01/09/2018 – 31/12/2020 (including both days).

The programme of activities was registered with UNFCCC on 23/10/2015, registration PoA10202 with a renewable crediting period. The PoA duration is from 15/01/2014 to 14/01/2042. The first PoA crediting period is from 23/10/2015 to 22/10/2022.

The PoA aims to reduce GHG emissions from the generation of electrical energy by solar PV power plants that displace equivalent power that would have been generated from fossil fuel sources in the absence of the PoA from the Rwanda national power grid.

As of today, there is only one CPA included in this PoA which is the subject of this periodic verification. This first CPA was included on 23/10/2015 with reference number 10202-P1-0001-CP1. The CPA covers the installation of a new renewable energy power plant at a site where none existed prior to the implementation of the project activity. The CPA uses solar photovoltaic (PV) modules to promote grid connected renewable energy, in Rwanda.

Project details are provided in Tables A-1 and A-2.1 below.

Details of the CPA location are given in table A-1 below:

**Table A-1:** Project Location

Topic	CPA Details	
UNFCCC number	10202-P1-0001-CP1	
Title	ASYV 8.5MW Solar PV Project (CPA-001)	
Host Country	Rwanda	
Region:	Rwamagana District	
Project location address:	Rubona Sector, Karambi cell	
Latitude:	- 2.024050°	- 2.028694°
Latitude:	- 2.027697°	- 2.026692°
Longitude:	30.377978°	30.375042°
Longitude:	30.379181°	30.374444°

Basic technical details of the implemented CPA are summarized in table A-2.

**Table A-2:** Technical data of each CPA covered by this verification report are briefly described as below:

The key parameters are in table below:

**Table A-2.1:** Technical data of the component project activity

Parameter	Unit	Value
<b>PV Module Specifications</b>		
Manufacturer	-	BYD
Type	-	Si-Poly
Model	-	BYD 300P6C-36 series
Rated nominal capacity	Wp	300
Umpp	V	35.97
Imp	A	8.34

Parameter	Unit	Value
Umax	V	1000
Max fuse Current rating	A	15
Tolerance	%	+3
Number of modules	-	28,360
Operating Voltage	V	600-850
Array Efficiency (STC)	%	15.47
Array Nominal Capacity	MWp	8.5
Array operating characteristics	-	646 V, 11812 A
Lifetime	years	25
<b>Inverter Specifications</b>		
Manufacturer	-	SMA
Model	-	Sunny Central 900CP XT_25degree
Rated Capacity	MW	5.75 each
Rated Voltage	V	600-850
Nominal Capacity	kW AC	990
No. of units	-	8
Total Nominal Capacity	kW AC	7,920
<b>Tracking system specifications</b>		
Tracking plane, tilted Axis	Axis tilt 0°	Axis azimuth 0°
Minimum limitations	Minimum Phi: -45°	Maximum Phi: -45°
Backtracking strategy	Tracker Spacing: 950 m	Collector width: 3.92m
Inactive band	Left: 0.10 m	Right: 0.10 m

For the details about the metering equipment installed at the CPA during this monitoring period, please refer to Appendix 6 of this report.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-I.D. ver. 18
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The PoA has generated GHG emission reductions.

As the result of the 3rd periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

## SECTION B. Verification team, technical reviewer and approver

### B.1. Verification 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 review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader	EI	Lubanga	David	-	x	-	x	x

**B.2. Technical reviewer and approver of the verification and certification 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	Stöhr	Christina	TÜV NORD CERT GmbH
2.	Technical reviewer (observer)	IR	Merkel	Alexej	TÜV NORD CERT GmbH
3.	Approver	IR	Nuske	Alexandra	TÜV NORD CERT GmbH

**SECTION C. Application of materiality in conducting the verification****C.1. Consideration of materiality in planning the verification**

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Materiality Threshold

The verification is based on the materiality threshold identified in table C-1 below:

**Table C-1:** Applied Materiality Threshold

	Threshold	Related to
<input type="checkbox"/>	0.5 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal equal to or more than 500,000 tonnes of carbon dioxide equivalent per year <sup>1</sup> ;
<input type="checkbox"/>	1 %	Emission reductions or removals for registered CDM project activities achieving a total emission reduction or removal of between 300,000 and 500,000 tonnes of carbon dioxide equivalent per year;
<input type="checkbox"/>	2 %	Emission reductions or removals for registered large-scale CDM project activities achieving a total emission reduction or removal of 300,000 tonnes of carbon dioxide equivalent per year or less;
<input checked="" type="checkbox"/>	5 %	Emission reductions or removals for registered small-scale CDM project activities other than registered CDM project activities covered under next category below;
<input type="checkbox"/>	10 %	Emission reductions or removals for the type of registered CDM project activities referred to in decision 3/CMP.6, paragraph 38 (referred to as microscale project activities).

Strategic Analysis

At the beginning of the verification, the verification team leader has assessed the nature, scale and complexity of the verification tasks by carrying out a strategic analysis of all activities relevant to the project activity. The team leader has collected and reviewed the information relevant to assess that the designated verification team is sufficiently competent to carry out the verification and to ensure that it is able to conduct the necessary risk analysis.

Risk analysis and detailed audit testing planning

For the identification and assessment of potential reporting risks and to determine the necessary detailed audit testing procedures for residual risk areas the following table is used.

<sup>1</sup> A year refers to a period of 12 consecutive months.

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Transfer of data from CPA monthly electricity protocols and invoices to the ER calculation spreadsheet.	Low	Human error during transfer of data to the ER calculations	Thorough cross-check required during transfer of data from monthly protocols and invoices. This is cross-checked by the CME CDM consultant. Periodic monitoring at the CPA office

On the basis of the risk analysis the verification has been planned. A detailed audit / verification plan has been prepared and submitted to the project participant(s) in due time before the site visit.

## C.2. Consideration of materiality in conducting the verification

Based on the verification planning the verification has been carried out. The concept of materiality has been considered. A breakdown of the chosen approaches is included in the following table.

Parameter	Approach*	Errors* detected	Findings reference	Corrected	Remaining verification risk
EGPJ,facility,y	CDC	<input type="checkbox"/>	-	<input type="checkbox"/>	Not material
Aggregate					Materiality threshold not exceeded

\*) incl. omissions and misstatements

+) Verification Approaches:

CDC: Complete data check of data including all data aggregation steps

NDC: Non-complete data check – omissions not material

SPL: Sampling approach (all data available)

ASP: Acceptance Sampling

COM: Data check at higher data aggregation levels and sampling at original data levels

The verification was basically carried out as per the verification plan. However, based on the actual situation on-site and the errors, omissions and misstatements identified during the verification minor deviations from the original plan occurred. However, due to the insignificance no major revision of the overall plan was required

## SECTION D. Means of verification

### D.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the latest version of the PoA-DD including the monitoring plan,
- the latest version of the CPA-DD;
- the last revision of the CPA validation reports;
- the monitoring report, including the claimed emission reductions for the PoA;
- the emission reduction calculation spreadsheet;

Other supporting documents, such as publicly available information on the UNFCCC website and background information were reviewed.

**D.2. Onsite Inspection<sup>2</sup>**

Duration of on-site inspection: - N/A				
No.	Activity performed on-site	Site location	Date	Team member

In accordance with para. 321 of the *CDM validation and verification standard for programmes of activities v2.0*, it is mandatory for the DOE to conduct an on-site inspection at verification for the included CPA if:

- a) It is the first verification for the DOE with regard to this CPA;
- b) More than three years have elapsed since the last on-site inspection conducted for verification for the CPA; or
- c) The CPA has achieved more than 300,000 t CO<sub>2</sub> eq of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted

This is the first verification by the DOE, and the last site visit was conducted by another DOE on 29/05/2017.

However, due to the COVID-19 pandemic, imposed travel restrictions including quarantines, the team leader was not able to conduct a physical on-site inspection on the Component Project Activity in Rwanda. According to the contract between CME and CER buyer the schedule including CER issuance, it was not possible to postpone the site visit in order to meet CER delivery commitment.

On the basis of the information note issued by the CDM EB on 20/03/2020 titled "CDM Executive Board agrees to relax mandatory site visits by DOEs for a period of three months (23 March to 23 June 2020) due to COVID-19 pandemic"<sup>COVID/</sup>, and further on 23/06/2020 extended to 31/12/2020 and to 30/06/2021, and on the basis of the following considerations, the verifier conducted a remote audit on 15/04/2021.

- The achieved emission reductions of the CPA are estimated to be 20,035 tCO<sub>2</sub>e.
- The CME has provided all relevant supporting documentation and interviews have been conducted, which is deemed sufficient to verify the CPA implementation and operation during the MPIII monitoring period.

In assessing the information, the DOE applied the means of verification specified throughout the CDM validation and verification standard for programmes of activities, version 2.0 and, where appropriate, standard auditing techniques, including, but not limited to:

1. Document review, involving:
  - A review of data and information;
  - Cross checks between the information provided in the PoA-DD, CPA-DD, and information from sources other than those used; if available, the DOE's sectoral or local expertise; and, if necessary, independent background investigations.
  - Crosscheck with documents from previous verifications and validation publicly available.
  - Google search on the project location.
2. Videocall via Zoom
3. Interview with related personnel

<sup>2</sup> Conducted as remote audit

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Cowman	Tim	Carbon Africa/Consultant <sup>/IM01/</sup>	15/04/2021	Introductions - Implementation status - Monitoring period - Any changes - Special events - QA/QC procedures - ER calculations - Findings - GSCP Comments	Lubanga, David
2	Aguko	Julie	Carbon Africa/Consultant <sup>/IM02/</sup>			
3	Jessica	-	Carbon Africa/Consultant <sup>/IM02/</sup>			
4	Twagirimana	Twaha	Scatec Solar/Plant Manager <sup>/IM02/</sup>			
5	Rikhotso	Amos	Scatec Solar/Consultant <sup>/IM02/</sup>			

**D.4. Sampling approach**

<input checked="" type="checkbox"/>	No sampling approach has been used by the VT to verify the monitored parameters				
<input type="checkbox"/>	A sampling approach has been applied by the VT for the following monitored parameter(s):				
	Parameter	Sampling approach <sup>1)</sup>	Sampling Type <sup>2)</sup>	Population	Sample Size

<sup>1)</sup> Sampling Approaches:

- SiRS: Simple Random Sampling  
 StRS: Stratified Random Sampling  
 SS: Systematic Sampling  
 CS: Cluster Sampling  
 MSS: Multi-stage Sampling

<sup>2)</sup> Sampling Types:

- AS: Acceptance Sampling  
 PS: Parameter Sampling  
 COM: Full data check at higher data aggregation levels and sampling at original data levels

**D.5. Clarification requests, corrective action requests and forward action requests raised**

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
<b>General</b>			
Compliance of the monitoring report with the monitoring report form (E.1.1)	0	0	0
Remaining forward action requests from validation and/or previous verifications (E.1.2)	0	0	0
CPAs considered for verification and covered in this report (E.1.3)	0	0	0
<b>Programme of activities</b>			
Compliance of the programme implementation with the registered PoA-DD (E.2.1)	0	0	0
Implementation and operation of the management system (E.2.2)	0	0	0
Post-registration changes (E.2.3)			
• Corrections (E.2.3.1)	0	0	0
• Inclusion of a monitoring plan (E.2.3.2)	0	0	0
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents <sup>3</sup> (E.2.3.3)	0	0	0

<sup>3</sup> Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

• Changes to the programme design (E.2.3.4)	0	0	0
• Addition of CPA inclusion template (E.2.3.5)	0	0	0
• Change of coordinating/managing entity (E.2.3.6)	0	0	0
• Changes specific to afforestation and reforestation activities (E.2.3.7)	0	0	0
<b>Component project activities</b>			
Compliance of the CPA implementation with the included CPA design document (E.3.1)	1	0	0
Post-registration changes (E.3.2)			
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents (E.3.2.1)	0	0	0
• Corrections (E.3.2.2)	0	0	0
• Changes to the start date-of the crediting period (E.3.2.3)	0	0	0
• Inclusion of a monitoring plan (E.3.2.4)	0	0	0
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents (E.3.2.5)	0	0	0
• Changes to the project design (E.3.2.6)	0	0	0
• Changes specific to afforestation and reforestation activities (E.3.2.7)	0	0	0
Compliance of the registered monitoring plan with applied methodologies and standardized baselines (E.3.3)	0	0	0
Compliance of monitoring activities with the registered monitoring plan (E.3.4)			
• Data and parameters fixed ex ante or at renewal of crediting period (E.3.4.1)	0	0	0
• Data and parameters monitored (E.3.4.2)	0	0	
• Implementation of sampling plan (E.3.4.3)	0	0	0
Compliance with the calibration frequency requirements for measuring instruments (E.3.5)	0	0	0
Assessment of data and calculation of emission reductions or net removals (E.3.6)	0	0	0
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks (E.3.6.1)	0	0	0
• Calculation of project GHG emissions or actual net GHG removals by sinks (E.3.6.2)	0	0	0
• Calculation of leakage GHG emissions (E.3.6.3)	0	0	0
• Summary of calculation of GHG emission reductions or net GHG removals by sinks (E.3.6.4)	0	0	0
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA (E.3.6.5)	1	0	0
• Remarks on difference from estimated value in included CPA (E.3.6.6)	0	0	0
Assessment of reported sustainable development co-benefits (E.3.7)	0	0	0
Global stakeholder consultation (E.3.8)	0	0	0
Others (please specify) - Editorials	0	4	0
<b>Total</b>	<b>2</b>	<b>4</b>	<b>0</b>

## SECTION E. Verification findings

### E.1. General

#### E.1.1. Compliance of the monitoring report with the monitoring report form

<b>Means of verification</b>	<p>A draft monitoring report was submitted to the verification team by the coordinating management entity. The DOE has made this report publicly available prior to the start of the verification activities. No comments were received.</p> <p>By means of the UNFCCC website it has been checked whether the latest applicable MR template CDM-PoA-MR-FORM has been used.</p> <p>Further, it has been checked whether the latest instructions for filling out the MR template have been followed. Every section has been checked against the respective guidance.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /MRT/</li> <li>• /unfccc/</li> </ul>
<b>Findings</b>	<input checked="" type="checkbox"/> The latest reporting template CDM-MR-FORM as listed on the UNFCCC website has been used for the Monitoring Report to be uploaded.
	<input type="checkbox"/> The latest instructions for filling out the MR have been followed. No adverse finding has been identified in the course of this verification.
	<input checked="" type="checkbox"/> The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: CAR 03
<b>Conclusion</b>	<input type="checkbox"/> No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/> The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	<p>The verification team has checked all sections of the MR and confirms by means of comparing the MR that has been used with the standardized MR template.</p> <p>It can be confirmed the latest instructions for filling out the MR have been followed.</p>

#### E.1.2. Remaining forward action requests from validation and/or previous verifications

During the validation the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose, FARs might have been raised. Likewise, FARs might have been raised in the course of previous verifications.

In the course of this verification the latest version of the PoA-DD and the latest CPA-DD and their respective validation reports have been checked in order to identify any remaining forward action requests. For the current monitoring period the following applies:

(i) Open issues from validation:

<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the latest version of the validation report.
<input type="checkbox"/>	All open issues from the validation have been appropriately addressed in the context of previous verifications.
<input type="checkbox"/>	All issues related to the validation have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	<p>The following issues related to the validation have <b>not</b> yet been appropriately addressed (for details please refer to appendix 4):</p> <p>N/A</p>

(ii) Open issues from previous verifications:

<input type="checkbox"/>	N/A – as this is the first monitoring period for this CDM project activity.
<input checked="" type="checkbox"/>	There were no open issues which have been addressed in the previous verification report
<input type="checkbox"/>	All issues related to the previous verification have been appropriately addressed in the course of the current monitoring period (for details please refer to appendix 4)
<input type="checkbox"/>	The following issues related to the previous verification have <b>not</b> yet been appropriately addressed (for details please refer to appendix 4):
	N/A

**E.1.3. CPAs considered for verification and covered in this report**

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
ASYV 8.5MW Solar PV Project (CPA-001) 10202-P1-0001-CP1	Yes	23/10/2015	5.0	Y

**E.2. Programme of activities****E.2.1. Compliance of the programme implementation with the registered programme design document**

<b>Means of verification</b>	<p>By means of an in-depth review of the PoA-DD in its latest form downloaded from the UNFCCC project site and interviews carried out during virtual on-site visit, an assessment has been carried out whether the project has been implemented and operated in line with the latest approved version of the PoA-DD and whether all physical features of the project are in place. The following has been checked: implemented technology, project equipment as well as monitoring and metering equipment.</p> <p>Further has been checked if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period and consistent notations of key equipment (meters etc.) in PoA-DD, CPA-DD, MR and ER calculation spreadsheet are applied.</p> <p>Interviews with CPA operational personnel have been carried out, operation records, maintenance records, instrument specifications were checked in this context.</p> <p>Special focus to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>Further, it has been checked whether any observed deviations from the registered project design have been correctly addressed as PRCs.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /PoA-DD/</li> <li>• /MR/</li> <li>• /VVS/</li> <li>• /ER/</li> <li>• /IM02/</li> <li>• /IM01/</li> </ul>
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<b>Findings</b>	<input checked="" type="checkbox"/>	The project has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	<input type="checkbox"/>	The following deviations from the registered project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section C.3.2 and C.3.6):
	<input type="checkbox"/>	In this context the following CARs, CLs have been raised:
		<i>In case of phased implementation:</i>
	<input checked="" type="checkbox"/>	N/A
	<input type="checkbox"/>	The phased implementation has correctly and in sufficient detail been described in the latest version of the PDD.
<b>Conclusion</b>	<input type="checkbox"/>	The description in section B.1 of the MR differs in content or the level of detail from the latest version of the PDD. However, the description in the MR is correct and reflects the situation during the site inspection.
	<input type="checkbox"/>	The project description in the PDD/MR is not deemed sufficient. The detailed implementation timeline is as follows: N/A
	<input checked="" type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
		This verification was conducted remotely. On the basis of the reviewed CPA documentation to confirm w.r.t. the realized technology, the project equipment, as well as the monitoring and metering equipment, the CPAs have been implemented and operated as described in the latest approved PoA-DD and CPA-DDs. Via documents inspection and review of operation logs, it is confirmed that there were no significant downtimes, or any special events or events / situations which can impact the applicability of methodology.  It could be confirmed the MR is filled appropriately.

## E.2.2. Implementation and operation of the management system

<b>Means of verification</b>		<p>The verification team conducted a review of the PoA-DD and checked related information against observations found during documents inspection and interviews conducted to respective personnel.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /PoA-DD/</li> <li>• /CPA-DD/</li> <li>• /IM01/</li> <li>• /IM02/</li> </ul>
<b>Findings</b>	<input checked="" type="checkbox"/>	The project management system has been implemented as described in the latest version of the PoA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	<input type="checkbox"/>	The following deviations from the registered project design and or the project description in the MR have been identified in the course of this verification (for further details please refer to section E.4): N/A
	<input type="checkbox"/>	In this context the following CARs, CLs have been raised:
		<i>In case of phased implementation:</i>
	<input checked="" type="checkbox"/>	N/A

	<input type="checkbox"/>	The phased implementation has correctly and in sufficient detail been described in the latest version of the PDD.
	<input type="checkbox"/>	The description in section B.1 of the MR differs in content or the level of detail from the latest version of the PDD. However, the description in the MR is correct and reflects the situation during the site inspection.
	<input type="checkbox"/>	The project description in the PDD/MR is not deemed sufficient. The detailed implementation timeline is as follows: N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	This verification is conducted remotely with documents review carried out. On the basis of these documents reviewed of project documentation it can be confirmed that w.r.t. the realized technology, the project equipment, as well as the monitoring procedures, the PoA has been implemented and operated as described in the latest PoA-DD version.	

### E.2.3. Post-registration changes

#### E.2.3.1. Corrections

It has been checked whether any corrections to PoA-DD information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.
<input type="checkbox"/>	The following corrections have been applied:
	1. Issue:
	(New) version No.: N/A
	Revision date: N/A
	It is confirmed that the updated / corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.
<input type="checkbox"/>	<input type="checkbox"/> A related post registration change has been submitted prior to the issuance request. As per PoA Project webpage on UNFCCC no approval number or date is provided. The documents are accessible via.
	<input type="checkbox"/> A related post registration change is submitted along with this issuance request. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.

#### E.2.3.2. Inclusion of a monitoring plan

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered PDD
<input type="checkbox"/>	In line with PoA PS § 234 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PoA PS § 120 (b) and §180 (b) wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with PoA PS § 234, §120 (a) and §180 (a) the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z.

### E.2.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 2 of the PoA project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB for which appendix 2 of the PoA PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

### E.2.3.4. Changes to the programme design

It has been checked whether any changes to the PoA-DD design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following CoPD is to be requested from the EB for the current MP as appendix 2 of the PoA project standard does not apply.		

	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following CoPD for which appendix 2 of the PoA PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

**E.2.3.5. Addition of CPA inclusion template**

<input checked="" type="checkbox"/>	N/A. The programme of activities has no addition of CPA inclusion template
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**E.2.3.6. Change of coordination/managing entity**

<input checked="" type="checkbox"/>	N/A. The programme of activities is not changing the coordination/managing entity
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**E.2.3.7. Changes specific to afforestation and reforestation activities**

<input checked="" type="checkbox"/>	N/A. The programme of activities is not an afforestation and reforestation project activities
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**E.3. Component project activities****E.3.1. Compliance of the CPA implementation with the included CPA design document**

<b>Means of verification</b>	<p>By means of an in-depth review of the CPA-DD in its latest form – as downloaded from the UNFCCC project site and the checks carried out during the remote assessment, it has been determined whether the project has been implemented and operated in line with the latest approved version of the CPA-DD and whether all physical features of the project are in place. The following has been checked: implemented technology, project equipment as well as monitoring and metering equipment.</p> <p>Further is has been checked if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period and consistent notations of key equipment (meters etc.) in CPA-DD, MR and calculation spreadsheet are applied.</p> <p>Interviews with operational personnel have been carried out, QMS records, maintenance records, instrument specifications were checked in this context.</p> <p>Special focus has further been laid to determine whether a potential phase wise implementation has occurred within the crediting period or any delays with respect to the starting dates have occurred.</p> <p>Further, it has been checked whether any observed deviations from the registered project design have been addressed appropriate in the PRCs.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /CPA-DD/</li> <li>• /PRC/</li> <li>• /VAL/</li> <li>• /VER/</li> <li>• /MR/</li> <li>• /GR/</li> <li>• /CR/</li> <li>• /ER/</li> <li>• /IM01/</li> </ul>	
<b>Findings</b>	<input checked="" type="checkbox"/>	The project has been implemented as described in the latest version of the CPA-DD as well as in section B.1 of the monitoring report. No deviations thereof have been identified in the course of this verification.
	<input type="checkbox"/>	The following deviations from the registered project design and or the

		project description in the MR have been identified in the course of this verification (for further details please refer to Appendix 4): N/A
	<input type="checkbox"/>	In this context the following CARs, CLs have been raised:
	<i>In case of phased implementation:</i>	
	<input checked="" type="checkbox"/>	N/A
	<input type="checkbox"/>	The phased implementation has correctly and in sufficient detail been described in the latest version of the PDD.
	<input type="checkbox"/>	The description in section B.1 of the MR differs in content or the level of detail from the latest version of the PDD. However, the description in the MR is correct and reflects the situation during the site inspection.
	<input type="checkbox"/>	The project description in the CPA-DD/MR is not deemed sufficient. The detailed implementation timeline is as follows: N/A
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	During the verification a remote assessment was carried out. On the basis of the reviewed of project documentation it can be confirmed that w.r.t. the realized technology, the project equipment, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the latest CPA-DD version.	

### E.3.2. Post-registration changes

#### E.3.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

It has been checked whether Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM) have been applied during this monitoring period. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No Temporary deviations from the registered monitoring plan (TDfrMP) or Temporary deviations from monitoring methodology or standardized baseline (TDfMM). have been submitted to the UNFCCC prior to the current monitoring period.		
<input type="checkbox"/>	The following TDfrMP or TDfMM have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.: )
		Appr.date	
		Ref. No.	
	2	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved (approval No.: )
		Appr.date	
		Ref.No.	
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a TDfrMP or TDfMM has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following TDfrMP or TDfMM is to be requested from the EB for the current MP as appendix 2 of the PoA project standard does not apply. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.		

	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following TDfMP or TDfMM for which appendix 2 of the PoA PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

**E.3.2.2. Corrections**

It has been checked whether any corrections to CPA information or parameters fixed at validation have been approved during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	During the verification of the current MP no need for corrections has been identified.		
<input checked="" type="checkbox"/>	The following corrections have been applied:		
	1.	Issue :	<p>Changes approved in previous monitoring period(s):</p> <p>During the 2<sup>nd</sup> verification process, it was identified that the project information mentioned in registered CPA-DD are incorrect. The following corrections are made:</p> <p><i>The number of solar modules indicated in the registered CPA-DD (version 05.0) is 28,340 each with a capacity of 300 W and a total peak capacity of 8.5 MW. The nameplate capacity of the modules installed on the project site remains unchanged at 300 W although the number of modules increased slightly to 28,360. Overall, the total installed peak capacity remains unchanged at 8.5 MW in accordance with the Power Purchase Agreement (PPA).</i></p> <p>The CPA-DD was revised to incorporate these changes. The revised CPA-DD version 7.0 dated 14/11/2017 has already been approved.</p>
	<p>The CPA-DD has been revised accordingly:</p> <p>(New) version No.: version 7.0</p> <p>Revision date: 14/11/2017</p> <p>Notification date: 16/11/2017</p>		
	<p>It is confirmed that the updated / corrected information is an accurate reflection of the actual project information and that the corrected parameters are in accordance with the applied methodology and the monitoring plan.</p>		
	<p><input checked="" type="checkbox"/> A related post registration change has been submitted prior to the issuance request. No related approval numbers and dates are mentioned on the corresponding subpages of the PoA webpage on UNFCCC.</p> <p><input type="checkbox"/> A related post registration change is submitted as per notification of changes.</p>		

**E.3.2.3. Changes to the start-date of the crediting period**

<input type="checkbox"/>	N/A - as this is not the first verification within the crediting period
<input type="checkbox"/>	The PPs do not intend to change the start date of the crediting period.
<input checked="" type="checkbox"/>	As the change in the start date was below the related time period as indicated in PoA PS § 231 no prior approval was required but only a notification. This notification has been submitted by the PP without involvement of the DOE. The change and new start date has been checked from the related UNFCCC project webpage.
<input type="checkbox"/>	The PPs intend to change the start date of the crediting period. As the intended change in start date beyond the related time period as indicated in PoA PS § 232 and §233 prior approval by the

	Board is required. For detailed assessment of the change please refer to related PRC validation report. As per assessment in this report the DOE confirms that the change to the start date of the crediting period are in line with the related requirements of the PoA VVS and PoA PS.
<input checked="" type="checkbox"/>	The approval to change the start date of the crediting period has been received on 16/11/2017 and approved without an approval number.

**E.3.2.4. Inclusion of a monitoring plan**

<input checked="" type="checkbox"/>	N/A - as this monitoring plan was part of the registered PDD
<input type="checkbox"/>	In line with PoA PS § 234 the PP has forwarded a monitoring plan to the DOE for validation. No prior approval of the monitoring plan was required as the PP in line with PoA PS § 120 (b) and §180 (b) wished to submit the monitoring plan together with the request for issuance for the first monitoring period. Please refer to the related PRC report submitted along with this issuance request for further details w.r.t. the assessment of the PRC.
<input type="checkbox"/>	In line with PoA PS § 234, §120 (a) and §180 (a) the PP submitted a monitoring plan prior to the submission of the request for issuance for validation to the DOE. A DOE has assessed the monitoring plan in line with related VVS requirements and submitted a related PRC report for prior approval. The approval has been received on DD/MM/YYYY via approval number PRC-XXXX-00Z.

**E.3.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents**

It has been checked whether any permanent changes from the registered monitoring plan (PCfrMP) or applied methodologies (PCfMM) including standardized baselines (PCfSB) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input type="checkbox"/>	No PCfrMP, PCfMM or PCfSB have been submitted to the UNFCCC prior to the current monitoring period		
<input checked="" type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB have been approved or are under approval by the UNFCCC		
	1	Title	There are three power meters instead of four indicated in the initial CPA-DD. The accuracy class are 0.2S for the main and back-up meters, and 0.5S for the auxiliary meter. Further details are in appendix 7 of the latest CPA-DD.
		Status	<input type="checkbox"/> under approval; <input checked="" type="checkbox"/> approved
		Appr.date	16/11/2017
		Ref. No.	-
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a PCfrMP, PCfMM or PCfSB has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following PCfrMP, PCfMM or PCfSB is to be requested from the EB for the current MP as appendix 2 of the project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following PCfrMP, PCfMM or PCfSB for which appendix 2 of the PoA PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

**E.3.2.6. Changes to the project design**

It has been checked whether any changes to the CPA design (CoPD) have been approved prior or during this monitoring period or submitted with this monitoring report. The result is summarized in the table below.

<input checked="" type="checkbox"/>	No CoPD has been submitted to the UNFCCC prior to the current monitoring period		
<input type="checkbox"/>	The following CoPD have been approved or are under approval by the UNFCCC		
	1	Title	
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	
		Ref. No.	
	2	Title	-
		Status	<input type="checkbox"/> under approval; <input type="checkbox"/> approved
		Appr. date	-
		Ref. No.	-
<input checked="" type="checkbox"/>	During the verification of the current MP no need for a CoPD has been identified. The monitoring plan is in accordance with the approved methodology applied by the PA		
<input type="checkbox"/>	An approval of the following CoPD is to be requested from the EB for the current MP as appendix 2 of the PoA project standard does not apply.		
	1	Issue:	
	2	Issue:	
<input type="checkbox"/>	The following CoPD for which appendix 2 of the PoA PS is applicable have been applied:		
	1	Issue:	
	2	Issue:	

**E.3.2.7. Changes specific to afforestation and reforestation activities**

<input checked="" type="checkbox"/>	N/A. The project activity is not an afforestation and reforestation project activities
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**E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines**

<b>Means of verification</b>	By means of comparison of the MR with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline The verification team has checked whether the MP is in compliance with the MP related requirements of the applied methodology/tools/SB. The following sources of information have been used in this context: <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /AMS/</li> <li>• /IPCC/</li> <li>• /CPA-DD/</li> </ul>		
<b>Findings</b>	<input checked="" type="checkbox"/>	The MP is completely in accordance with the approved methodology applied by the CDM project (last registered/approved version of the PDD)	
	<input type="checkbox"/>	The breakdown of MP accordance of the referenced tools is as follows:	
	1.	Title (of the tool)	Tool to calculate the emission factor for an electricity system

		Version	4.0.0
		MP compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A (for MP)
	2.	Title (of the tool)	Tool to calculate project or leakage CO <sub>2</sub> emissions from fossil fuel combustion
		Version	2.0
		MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)
	3.	Title (of the tool)	Tool to determine the remaining lifetime of equipment
		Version	1.0
		MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)
	4.	Title (of the tool)	Project and leakage emissions from biomass
		Version	2.0
		MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)
	5.	Title (of the tool)	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period
		Version	3.0.1
		MP compliance	<input type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input checked="" type="checkbox"/> N/A (for MP)
	<input type="checkbox"/>	The breakdown of MP accordance of the applicable SB is as follows:	
		Title (of the SB)	N/A
		Version	-
		MP compliance	-
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:	
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.	
	The monitoring plan complies with the latest approved monitoring plan and the methodology. No standardised baseline is applied.		

### E.3.4. Compliance of monitoring activities with the registered monitoring plan

#### E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period

<b>Means of verification</b>	The verification team has checked the ex-ante parameters and data stated in Section E.1 of MR and compared with section 2.4.2 of the registered / approved revised CPA-DD whether all parameters fixed ex-ante for the crediting period have been applied correctly.
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	The following parameters have been fixed at validation or at renewal of crediting period:		
	No.	Parameter	Value
	1.	$NCV_{i,y}$	Heavy Fuel Oil: 0.0398 Diesel Oil: 0.0414
	2.	$EF_{CO_2,i,y} / EF_{CO_2,m,i,y}$	Heavy Fuel Oil: 0.0755 Diesel Oil: 0.0726
	3.	$EG_{m,y}$	Refer to grid emission factor calculation spreadsheet data
	4.	$FC_{i,m,y}$	Refer to grid emission factor calculation spreadsheet data
	5.	$\eta_{m,y}$	60
<p>Unit</p> <p>GJ/kg</p> <p>tCO<sub>2</sub>/GJ</p> <p>MWh</p> <p>kg/year</p> <p>%</p>			
<p>Additionally, the grid emission factor is also fixed:  <math>EF_{grid,y} / EF_{grid,CM,y} = 0.66 \text{ tCO}_2\text{e/MWh}</math></p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /PoA-DD/</li> <li>• /CPA-DD/</li> <li>• /PS/</li> <li>• /VVS/</li> <li>• /IPCC/</li> <li>• /IM01/</li> <li>• /IM02/</li> </ul>			
<b>Findings</b>	<input checked="" type="checkbox"/>	The MR and the ER calculation have considered the parameters fixed ex-ante for the crediting period correctly, no deviations have been observed.	
	<input type="checkbox"/>	The following deviations from the parameters fixed ex-ante or at renewal of crediting period have been identified in the course of this verification: N/A	
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:	
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.	
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.	
	The data and parameters listed in the section E.1 of MR was crosschecked with the applied methodology, approved CPA-DD, ER spreadsheet, and are consistent. The grid emission factor is correctly applied for the emission reduction calculations.		

#### E.3.4.2. Data and parameters monitored

<b>Means of verification</b>	<p>During the verification all relevant monitoring parameters (as listed in chapter B.7.1 of the PoA-DD and esp. D.7.1 of CPA-DD) have been verified with regard to the</p> <ul style="list-style-type: none"> <li>(i) appropriateness of the applied measurement / determination method,</li> <li>(ii) the correctness of the values applied for ER calculation,</li> <li>(iii) the accuracy, and applied QA/QC measures.</li> </ul> <p>The results as well as the verification procedure are described parameter-wise</p>
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	in the project specific verification checklist (Appendix 5). The following sources of information have been used in this context: <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /CPA-DD/</li> <li>• /PS/</li> <li>• /VVS/</li> <li>• /ER/</li> </ul>	
<b>Findings</b>	-	
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	During the verification all relevant monitoring parameters (as listed in chapter D.7.1 of the revised CPA-DD) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure described parameter wise in the project specific verification checklist.  It can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with applicable standards and relevant requirements.	

### E.3.4.3. Implementation of sampling plan

<b>Means of verification</b>	The verification team has been checked whether the CMA have applied a sampling approach to determine the monitored values. Further it has been checked whether the CME have correctly applied the implemented sampling plan including <ul style="list-style-type: none"> <li>(i) description of the implemented sampling design</li> <li>(ii) collected data</li> <li>(iii) analysis of collected data</li> <li>(iv) demonstration on whether the required confidence/precision has been met.</li> </ul> The following sources of information have been used in this context: <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> <li>• /PoA-DD/</li> <li>• /CPA-DD/</li> </ul>			
<b>Findings</b>	<input checked="" type="checkbox"/>	The PPs have not applied sampling approaches for the parameters monitored.		
	<input type="checkbox"/>	The PPs have applied sampling approaches for the following parameters monitored.		
		1	Parameter:	
			Name:	
			Description on how the sampling efforts and survey comply with the validated sampling plan:	
	2	Parameter:		
Name:				
Description on how the sampling efforts and survey comply with the validated sampling plan:				
<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:			
	-			

<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
		No sampling was applied to determine the monitored parameter.

### E.3.5. Compliance with the calibration frequency requirements for measuring instruments

<b>Means of verification</b>	<p>During the verification the relevant monitoring equipment has been checked whether the calibration requirements have been met; especially if the calibration frequency is in line with the requirements of the validated CPA-DD and/or the applicable calibration standards.</p> <p>The accuracy of equipment used for monitoring have been controlled and calibrated in accordance with the monitoring plan and the PPA. The calibrations of all monitoring equipment installed have been verified as listed in table given in Appendix 6 to this report.</p> <p>The metering diagrams are in line with the monitoring report.</p> <p>The results as well as the verification procedure are described equipment-wise in the project specific verification checklist (Appendix 6).</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> <li>• /CR/</li> <li>• /PPA/</li> <li>• /TEST/</li> <li>• /PoA-DD/</li> <li>• /CPA-DD/</li> <li>• /IM01/</li> <li>• /IM02/</li> </ul>	
<b>Findings</b>	<input type="checkbox"/>	Inconsistencies of the calibration information with calibration reports.
	<input type="checkbox"/>	<p>Based on the assessment and information as per appendix 5 delay(s) in calibration have been identified. The CMA has applied the maximum permissible error of the instrument to the measured values taken during the period between the scheduled date of calibration and the actual date of calibration.</p> <p>From the related calibration certificates and emission reduction calculation the verification team confirms that the maximum permissible error has been applied in a conservative manner so that the adjusted measured values due to the delayed calibration result in fewer claimed emission reductions.</p> <p>For details, please refer to appendix 6</p>
	<input checked="" type="checkbox"/>	The metering diagram reflects the actual situation and is in line with the registered CPA-DD and with the requirements of the applied methodology
	<input checked="" type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised:</p> <p>CL 01</p>
<b>Conclusion</b>	<input type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
		<p>The new main and auxiliary meters were installed on 11/10/2016.</p> <p>The new backup meter (under control of the utility) was installed on</p>

	<p>14/07/2015.</p> <p>All the meters are manufacturer calibrated and do not require further periodic calibration as per the supplier and the PPA.</p> <p>As per the PPA, testing and inspection of the meters is done jointly with the grid operator at intervals of not less than 90 days, and in case of any issues (clauses 12.2.1 &amp; 12.3.3.1) they are calibrated or changed accordingly. During this monitoring period, the CPA implementer confirmed that the meters operated normally as confirmed by the testing certificates issued on diverse dates<sup>/TEST/</sup>. The verifier has checked the testing and inspection certificates during the monitoring period.</p> <p>It could be confirmed that meter calibrations and conservative calculation of net power exported are correct as reported by the CME in the MR.</p>
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### E.3.6. Assessment of data and calculation of emission reductions or net removals

#### E.3.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>During the verification the calculation of baseline GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> <li>• <i>Transparency</i>: It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae.</li> <li>• <i>Parameter consistency</i>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet.</li> <li>• <i>Correctness</i>: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology.</li> <li>• <i>Completeness</i>: It has been checked whether all calculations are complete and without omissions.</li> </ul> <p>The baseline GHG emissions of the CPAs have been determined using the following equation:</p> $BE_y = EG_{PJ, facility, y} \times EF_{grid, CM, y}$ $EG_{PJ, y} = EG_{PJ, facility, y}$ $= 30,359 \text{ MWh} \times 0.66 \text{ tCO}_2/\text{MWh}$ $= 20,035 \text{ tCO}_2\text{e}$ <p>Where:</p> <p><math>BE_y</math> Baseline emissions in year y (tCO<sub>2</sub>/yr)</p> <p><math>EG_{PJ, facility, y}</math> Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)</p> <p><math>EG_{PJ, y}</math> 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><math>EF_{grid, CM, y}</math> CO<sub>2</sub> emission factor of the grid electricity in year y</p> <p>Therefore, the total baseline emissions for CPA1 and this monitoring period are <b>20,035 tCO<sub>2</sub>e</b>.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> <li>• /CPA-DD/</li> <li>• /PoA-DD/</li> <li>• /GR/</li> <li>• /PPA/</li> </ul>
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	• /IM02/	
<b>Findings</b>	<input checked="" type="checkbox"/>	<p>The calculation of the baseline emissions was found to be fully compliant with the above stated principles.</p> <p>The calculations of baseline GHG emissions or baseline net GHG removals have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in emission or removal calculations have been justified. Appropriate emission factors, IPCC default values, GWPs and other reference values have been correctly applied.</p> <p>No errors, miscalculations, omissions, misstatements or incomplete information has been identified.</p>
	<input type="checkbox"/>	The verification team has identified mistakes in the baseline emissions calculation or the underlying calculation approaches.
	<input checked="" type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised:</p> <p>CL 01</p>
<b>Conclusion</b>	<input type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	<p>The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.</p> <p>Electricity imported and exported to the grid is measured by a set of main and back-up digital bidirectional meters. The main meter is under the control of the grid operator.</p> <p>The monthly electricity invoices have been cross-checked with the electricity data for both the exported and imported electricity applied in the emission reduction calculation.</p> <p>The CME has applied actual net electricity data supplied to the grid in ER calculations, and not the invoiced values as some months in the invoices include 'deemed energy credits'. This is electricity produced but not utilized by the utility during periods of grid outages, and is tracked each month and invoices submitted including the deemed energy report<sup>/IM02/</sup>.</p> <p>The following is the relevant clause from the PPA</p> <p><u>13.2 Deemed Delivered Event:</u></p> <p><u>13.2.1 The energy associated with the Installed Capacity will be deemed to be delivered where Project Co. is unable to generate or deliver electrical energy in the following circumstances (each a "Deemed Delivered Event"):</u></p> <p><u>13.2.1.1 failure by the Purchaser to take any steps required by it in connection with the completion of the Interconnection Facilities, as provided in Clause 9;"</u></p> <p>Therefore, the input values applied and the calculation of the baseline emission reductions during this monitoring period can be confirmed as correct and conservative.</p>

### E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

<b>Means of verification</b>	<p>During the verification the calculation of project GHG emissions has been checked. In detail the following has been verified:</p> <ul style="list-style-type: none"> <li>• Transparency: It has been checked whether the calculation of project emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae.</li> <li>• Parameter consistency: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spreadsheet.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Correctness: It has been checked whether the applied formulae and methods for calculating project emissions are in accordance with the monitoring plan and the approved methodology.</li> <li>• Completeness: It has been checked whether all calculations are complete and without omissions.</li> <li>• /MR/</li> <li>• /CPA-DD/</li> <li>• /AMS/</li> </ul>	
<b>Findings</b>	<input checked="" type="checkbox"/>	The calculation of the project emissions was found to be fully compliant with the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. No errors, miscalculations, omissions, misstatements or incomplete information have been identified.
	<input type="checkbox"/>	The verification team has identified mistakes in the project emissions calculation or the underlying calculation approaches.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	No project emissions need to be considered, as per applied methodology and in line with the registered CPA-DD.	

### E.3.6.3. Calculation of leakage GHG emissions

<b>Means of verification</b>	<p>During the verification it has been checked whether leakage emissions have to be considered and, in cases where leakage emissions have to be calculated, the respective calculation of leakage GHG emissions has been checked. In such cases the same verification principles have been considered as for the baseline and project emissions calculation.</p> <p>According to the applied methodology and the registered CPA-DD, the leakage factor is assumed to be 0. Therefore, leakage is considered to be zero (<math>LE_y = 0</math>)</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> <li>• /CPA-DD/</li> <li>• /AMS/</li> </ul>	
<b>Findings</b>	<input checked="" type="checkbox"/>	No leakage emissions were to be considered ( $LE = 0$ ).
	<input type="checkbox"/>	<p>The calculation of the leakage emissions was found to be fully compliant with the above stated principles (see 8.1 and 8.2).</p> <p>The calculations of leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan, the applied methodology and, where applicable, the applied standardized baseline. Any assumptions used in leakage emissions calculations have been justified. Where applicable, appropriate emission factors, IPCC default values, GWPs and other reference values have been correctly applied.</p> <p>No errors, miscalculations, omissions, misstatements or incomplete information have been identified.</p>
	<input type="checkbox"/>	The verification team has identified mistakes in the project emissions calculation or the underlying calculation approaches.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -

<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	No leakage has to be considered according to the registered CPA-DD since the technology used in this project is neither transferred to nor transferred from another activity and it is not a biomass component project activity.	

#### E.3.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

<b>Means of verification</b>	<p>The verification team has checked if the MR includes a summary table of the emission reductions calculation specifying separately</p> <ul style="list-style-type: none"> <li>- Total baseline emissions,</li> <li>- Total project emissions,</li> <li>- Total leakage,</li> <li>- Total emission reductions.</li> </ul> <p>It has been assessed whether the values are correct or need to be revised as a consequence of issues identified above.</p> $\begin{aligned} \text{ERy} &= \text{BEy} - \text{PEy} - \text{LEy} \\ &= 20,035 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e} \\ &= 20,035 \text{ tCO}_2\text{e} \end{aligned}$ <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> </ul>	
<b>Findings</b>	<input checked="" type="checkbox"/>	Section F.4 of the MR includes in a summary table of the emission reductions calculation.
	<input checked="" type="checkbox"/>	The summary table specified the total baseline, project and leakage emissions as well as the total emission reductions separately.
	<input checked="" type="checkbox"/>	The values as specified in the ER summary table are correct; no issues have been identified during the verification which requires changes in the ER calculation.
	<input type="checkbox"/>	During the verification, issues with impact on the ER calculation have been identified.
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	With appropriate correction, the summary table in the MR has been filled correctly and the values are in line with the related emissions reduction spreadsheet.	

Title and UNFCCC reference number of the CPA	Baseline emissions or baseline net GHG removals by sinks (tCO <sub>2</sub> e)	Project emissions or actual net GHG removals by sinks (tCO <sub>2</sub> e)	Leakage (tCO <sub>2</sub> e)	GHG emission reductions or net GHG removals by sinks (tCO <sub>2</sub> e)		
				Amount achieved before 1 January 2013	Amount achieved from 1 January 2013	Amount achieved in the entire monitoring period
ASYV 8.5MW Solar PV Project (CPA-001)  10202-P1-0001-CP1	20,035	0	0	0	20,035	20,035
<b>Total</b>	<b>20,035</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20,035</b>	<b>20,035</b>

#### E.3.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

<b>Means of verification</b>	<p>The verification team has checked if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered CPA-DD. Section F.5 of the MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered CPA-DD.</p> <p>The total emissions reduction sum for the CPA in this monitoring period are proportionally lower than ex-ante estimated by approx. 14.6%.</p> <p>It has further checked which of the below listed cases is applicable for the calculated ER of the current monitoring period.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /ER/</li> <li>• /CPA-DD/</li> </ul>	
<b>Findings</b>	<input checked="" type="checkbox"/>	Case 1: The ex-ante estimated value was found to be proportionally higher than the ex-post determined value. No further action is deemed required.
	<input type="checkbox"/>	Case 2: The ex-ante estimated value fits very good to the actually monitored value. No further justification is deemed required.
	<input type="checkbox"/>	Case 3: The ex-ante estimated value was found to be proportionally lower than the ex-post determined value.
	<input checked="" type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: CL 02
<b>Conclusion</b>	<input type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	It could be confirmed the ex-ante estimated value is proportionally higher than the ex-post determined value.	

Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period (t CO <sub>2</sub> e)	Value estimated in ex ante calculation in the included CPA-DD(s) (t CO <sub>2</sub> e)
ASYV 8.5MW Solar PV Project (CPA-001) 10202-P1-0001-CP1	20,035	23,451
<b>Total</b>	<b>20,035</b>	<b>23,451</b>

### E.3.6.6. Remarks on difference from estimated value in included CPA

<b>Means of verification</b>	<p>On the basis of the above comparison of actual values of the monitoring period with the estimations in the registered CPA-DD the verification team has checked whether (in case 3) an appropriate explanation is included in the MR.</p> <p>For this monitoring period, the actual emission reductions were found lower than the estimated emission reductions in the registered / revised CPA-DDs.</p>	
<b>Findings</b>	<input checked="" type="checkbox"/>	No further justification or explanation is deemed required as actual emissions of this MP do not exceed significantly the ex-ante calculated emission reductions (applicable for case 1 and 2).
	<input type="checkbox"/>	For case 3: The CME has provided a related justification in the MR. The reasons for the increase are as follows:
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	<p>The ex-post ERs are lower than ex-ante estimation for the CPA.</p> <p>Therefore, no further justification required.</p>	

### E.3.7. Assessment of reported sustainable development co-benefits

<b>Means of verification</b>	<input checked="" type="checkbox"/>	N/A – as the PP has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.
	<input type="checkbox"/>	<p>The project participants have monitored the sustainable development co-benefits of the registered CDM project activity, and requested the DOE to verify them.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /CPA-DD/</li> <li>• /unfccc/</li> <li>• /IM01/</li> </ul>
<b>Findings</b>	<input checked="" type="checkbox"/>	N/A – as the CME has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.
	<input type="checkbox"/>	<p>Therefore, the DOE has assessed and confirms that:</p> <p>(a) The monitoring has been carried out in accordance with the document for monitoring sustainable development co-benefits, if such document was developed and published on the UNFCCC CDM website in accordance with the “CDM project standard for project activities”;</p> <p>(b) The reported monitoring results correspond to the sustainable development co-benefits of the project activity as observed by the DOE.</p>
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised: -
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.

	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	<input checked="" type="checkbox"/>	N/A – as the PP has not monitored the sustainable development co-benefits of the registered CDM project activity or not requested the DOE to verify them.

**E.3.8. Global stakeholder consultation**

<b>Means of verification</b>	<p>In accordance with the PCP the DOE has submitted the initial version of the monitoring report provided by the CME for this monitoring period to be published on the UNFCCC webpage.</p> <p>The monitoring report has been published for the period on 10/03/2021</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> <li>• /MR/</li> <li>• /unfccc/</li> </ul>													
<b>Findings</b>	<input checked="" type="checkbox"/>	No comments have been received on the published monitoring report for this monitoring period.												
	<input type="checkbox"/>	Comments have been received and the DOE has concluded that comments are related to issues outside the CDM rules and requirements. Please refer to the list provided under Conclusion of this Section below for related information.												
	<input type="checkbox"/>	<p>Comments have been received.</p> <p>The DOE has</p> <ul style="list-style-type: none"> <li>- requested further information from the submitters of the comments</li> <li>- informed the project participants of the comments received, and requested their feedback within a specified timeframe,</li> <li>- considered the input received and has assessed whether such comments are relevant to the CDM project activity,</li> <li>- acknowledged receipt of all submitted comments on the MR of the proposed CDM project activity,</li> <li>- assessed whether the comments are related to the CDM rules and requirements (if so related findings have been raised as per below),</li> <li>- used all possible means to determine the authenticity of the name and contact details of the individual or organization on whose behalf the comments have been submitted,</li> <li>- contacted the secretariat to make them publicly available (if only addressed to the DOE),</li> <li>- determined whether authentic and relevant comments in the global stakeholder consultation were taken into due account in the PDD of the proposed CDM project activity.</li> </ul>												
	<input type="checkbox"/>	<p>In this context the following CARs, CLs, FARs have been raised, i.e. as the DOE concludes that the comments are related to the CDM rules and requirements:</p> <p>-</p>												
<b>Conclusion</b>	<input checked="" type="checkbox"/>	No CARs / CLs / FARs have been raised in this context. No correction was required. The project is in line with the respective requirements.												
	<input type="checkbox"/>	The raised CARs / CLs / FARs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.												
	As the DOE has concluded that comments are related to issues outside the CDM rules and requirements the comments and information gathered are listed as follows:													
	<table border="1"> <thead> <tr> <th>No.</th><th>Original comment received</th><th>Feedback by the PP</th><th>Statement by DOE</th></tr> </thead> <tbody> <tr> <td>1.</td><td></td><td></td><td></td></tr> <tr> <td>2.</td><td></td><td></td><td></td></tr> </tbody> </table>			No.	Original comment received	Feedback by the PP	Statement by DOE	1.				2.		
No.	Original comment received	Feedback by the PP	Statement by DOE											
1.														
2.														

## SECTION F. Internal quality control

Before the submission of the final verification report a technical review of the whole verification procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the verification team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may have been confirmed or revised. Furthermore, reporting improvements might have been achieved.

After the successful technical review, an overall (esp. procedural) assessment of the complete verification has been carried out by a senior assessor located in the accredited premises of TÜV NORD CERT GmbH.

After this step the submission for requesting for issuance is conducted.

## SECTION G. Verification opinion

The Gigawatt Global Cooperatief U.A has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 3rd periodic verification of the PoA: **“Gigawatt Global Programme of Activities”**, with regard to the relevant requirements for CDM project activities. The component project activities reduce GHG emissions through using solar energy PV modules to generate renewable energy which is exported to the Rwanda national grid. This verification covers the period from 01/09/2018 to 31/12/2020 (including both days).

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., AMS-I.D. ver. 18.0.
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The CPA has generated GHG emission reductions.

As the result of this periodic verification, the verifier confirms that the GHG emission reductions have been calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above-mentioned reporting period as follows:

Emission reductions: **20,035 tCO<sub>2e</sub>**

**SECTION H. Certification statement**

As a duly accredited DOE, TÜV NORD CERT confirms that the PoA

**“Gigawatt Global Programme of Activities”**

registered under

UNFCCC-No.: **10202**

has achieved emission reductions in accordance with all applicable requirements for registered CDM project activities during the current monitoring period

MP-No.: **3**

from: **01/09/2018**

to: **31/12/2020**

(including both days) as follows:

Emission reductions: **20,035 tCO<sub>2</sub>e**

Nairobi, 30/07/2021



Lubanga, David  
TÜV NORD JI/CDM CP  
Verification Team Leader

## Appendix 1. Abbreviations

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
CER	Certified Emission Reduction
CME	Coordinating Managing Entity
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> eq	Carbon dioxide equivalent
CL	Clarification Request
DOE	Designated Operational Entity
DVerR	Draft Verification Report
ER	Emission Reduction
EWSA	Energy Water and Sanitation Authority
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IM	Interview Memo
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PO	Partner Organization
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
PDD	Project Design Document
PP	Project Participant
PRC	Post Registration Changes
PS	CDM project standard for project activities
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

## Appendix 2. Competence of team members and technical reviewers



**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TUV NORD JRCOM Certification Program

**Mr. David Lubanga**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2021-10-20
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2021-10-20


Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 7, Date: 2018-10-19

251\_251-VA065-F20\_2018-10-19\_rev7.doc

501-VA065-F20 rev3 / 2012-10-25



**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TUV NORD JRCOM Certification Program

**Ms. Christina Stöhr**

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2023-05-05
VCS / ISO 14064-2	Lead Assessor/ Technical Reviewer	2023-05-05

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
13.1	Solid waste and wastewater

200 - Rev. 7 Date: 2020-10-07

200\_201-VA060-F20\_2020-10-07\_rev7

501-VA065-F20 rev3 / 2012-10-25

## Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1.	UNFCCC	/ACM2/	ACM0002: Grid-connected electricity generation from renewable sources (version 16.0.0)	<a href="https://cdm.unfccc.int/methodologies/SSCMethologies/approved">https://cdm.unfccc.int/methodologies/SSCMethologies/approved</a>	Other
2.	UNFCCC	/AMS/	AMS-I.D: Grid connected renewable electricity generation (version 18.0).	<a href="https://cdm.unfccc.int/methodologies/SSCMethologies/approved">https://cdm.unfccc.int/methodologies/SSCMethologies/approved</a>	Other
3.	UNFCCC	/CPADD F/	Component project activity design document form (Version 09.0)	<a href="http://cdm.unfccc.int/Reference/PDDs_Forms/index.html#reg">http://cdm.unfccc.int/Reference/PDDs_Forms/index.html#reg</a>	Other
4.	UNFCCC	/GT/	Glossary “CDM terms” (version 10.0)	<a href="https://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf">https://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf</a>	Other
5.	UNFCCC	/KP/	Kyoto Protocol (1997)	<a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a>	Other
6.	UNFCCC	/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)	<a href="http://cdm.unfccc.int/Reference/COPMOP/index.html">http://cdm.unfccc.int/Reference/COPMOP/index.html</a>	Other
7.	UNFCCC	/MRF/	Monitoring report form for CDM programme of activities (Version 04.0)	<a href="https://cdm.unfccc.int/Reference/PDDs_Forms/index.html">https://cdm.unfccc.int/Reference/PDDs_Forms/index.html</a>	Other
8.	UNFCCC	/PCP/	CDM project cycle procedure for programmes of activities version 02.0	<a href="https://cdm.unfccc.int/Reference/Procedures/index.html">https://cdm.unfccc.int/Reference/Procedures/index.html</a>	Other
9.	UNFCCC	/PS/	CDM project standard for programmes of activities version 02.0	<a href="https://cdm.unfccc.int/Reference/Standards/index.html">https://cdm.unfccc.int/Reference/Standards/index.html</a>	Other
10.	UNFCCC	/VVS/	CDM validation and verification standard for programmes of activities version 02.0	<a href="https://cdm.unfccc.int/Reference/Standards/index.html">https://cdm.unfccc.int/Reference/Standards/index.html</a>	Other
11.	UNFCCC	/SS/	<ul style="list-style-type: none"> <li>Guideline “Sampling and surveys for CDM project activities and programme of activities” (Version 04.0)</li> <li>Standard “Sampling and surveys for CDM project activities and programme of Activities” (version 9.0)</li> </ul>	<a href="https://cdm.unfccc.int/Reference/Guidclarif/index.html">https://cdm.unfccc.int/Reference/Guidclarif/index.html</a> <a href="http://cdm.unfccc.int/Reference/Standards/index.html">http://cdm.unfccc.int/Reference/Standards/index.html</a>	Other
12.	UNFCCC	/TL/	Tool to calculate the emission factor for an electricity system Version 04.0.0	<a href="http://cdm.unfccc.int/DNA/Reference/tools/index.html">http://cdm.unfccc.int/DNA/Reference/tools/index.html</a>	Other
13	IPCC	/IPCC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	Other

No.	Author	Reference	Title	References to the document	Provider
			National Greenhouse Gas Inventories: work book		
14.	DOE	/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)		DOE
15.	UNFCCC	/PoA-DD/	<ul style="list-style-type: none"> <li>Registered Project Design Document for CDM PoA: "Gigawatt Global Programme of Activities" version 5.0, dated 08/10/2015</li> </ul>	<a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view</a>	Other
16.	UNFCCC	/CPA-DD/	<ul style="list-style-type: none"> <li>Registered CPA-DD for ASYV 8.5MW Solar PV Project (CPA-001), v7.0, dated 14/11/2017</li> </ul>	<a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view</a>	Other
17.	UNFCCC	/VAL/	<ul style="list-style-type: none"> <li>Validation Report for CDM PoA project Gigawatt Global Programme of Activities version 2.0, dated 13/10/2015</li> <li>Validation Report for CPA ASYV 8.5MW Solar PV Project (CPA-001), version 2.0 dated 21/10/2015</li> </ul>	<a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view</a>	Other
18.	UNFCCC	/VER/	Documents of previous verifications (Monitoring report, verification report, ER calculation sheet)	<a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/069O1LAWYS37INVEB5RZHMCU4KJFPD/view</a>	Other
19.	CME	/MR/	<p>Monitoring Report version 01 dated 04/03/2021</p> <p>Monitoring Report version 02 dated 06/04/2021</p> <p>Monitoring Report version 02 dated 20/04/2021</p> <p>Monitoring Report version 03 dated 13/05/2021</p> <p>Monitoring Report version 04 dated 27/05/2021</p> <p>Monitoring Report version 05 dated 27/05/2021</p>		CME
20.	CME	/ER/	<p>CDM 00 - GWG Energy_Report_Hourly_data</p> <p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v1.0</p> <p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v2.0, dated 23/03/2021</p> <p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v2.0, dated 04/03/2021</p>		CME

No.	Author	Reference	Title	References to the document	Provider
			<p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v3.0, dated 04/03/2021</p> <p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v4.0, dated 04/03/2021</p> <p>Emission Reduction Calculation: 2021 03 04 GwG CDM PoA ER v5.0, dated 22/06/2021</p>		
21.	CME	/CR/	Refer Appendix 6 for details of meters and calibration for the CPA.		CME
22.	CME	/TEST/	<p>Testing Certificate for main meter serial number 3507510704209, dated 11/04/2019</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 05/01/2019</p> <p>Testing Certificate for main meter serial number 3507510704209, dated 16/07/2019</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 16/07/2019</p> <p>Testing Certificate for main meter serial number 3507510704209, dated 04/11/2019</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 04/11/2019</p> <p>Testing Certificate for main meter serial number 3507510704209, dated 21/01/2020</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 21/01/2020</p> <p>Testing Certificate for main meter serial number 3507510704209, dated 04/05/2020</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 04/05/2020</p> <p>Testing Certificate for main meter serial number 3507510704209, dated 30/07/2020</p> <p>Testing Certificate for back-up meter serial number 3507510704191, dated 30/07/2020</p> <p>Testing Certificate for auxiliary meter serial number 3507510704217, dated 30/07/2020</p> <p>Testing Certificate for main meter</p>		

No.	Author	Reference	Title	References to the document	Provider
			serial number 3507510704209, dated 23/11/2020  Testing Certificate for back-up meter serial number 3507510704191, dated 23/11/2020  Testing Certificate for auxiliary meter serial number 3507510704217, dated 23/11/2020		
23.	CME	/GR/	Monthly sale invoices from 01/09/2018 to 31/12/2020		CME
24.	CME	/PPA/	Power Purchase Agreement – metering extract		CME
<b>Websites</b>					
24.	-	/unfccc/	UNFCCC	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	Other
25.	-	/ipcc/	IPCC publications	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	Other
26.	-	/dnaHP/	DNA of Rwanda	<a href="https://www.rema.gov.rw/">https://www.rema.gov.rw/</a>	Other

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

**Table 3. Remaining FARs from validation and/or previous verification**

<b>FAR ID</b>	xx	<b>Section no.</b>		<b>Date:</b>	DD/MM/YYYY
<b>Description of FAR</b>					
N/A					
<b>CME response</b>				<b>Date:</b>	DD/MM/YYYY
<b>Documentation provided by the CME</b>					
<b>DOE assessment</b>					
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>				<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The FAR is closed	

**Table 4. CLs from this verification**

<b>CL ID</b>	01	<b>Section no.</b>	-	<b>Date:</b>	21/03/2021
<b>Description of CL</b>					
MR version 1.0 Required Documents 1. Calibration certificates for Main meter and for backup meter 2. Electricity invoices for exports 3. Electricity invoices for imports					
<b>Project participant response (1<sup>st</sup> round)</b>					<b>Date:</b> 06/04/2021
1. Calibration certificates provided in supporting documents package- see "CDM 57" in folder 02 – Meter calibration & testing 2. Invoices for electricity export provided with supporting documents package- see folder 01. Invoices & energy report 3. Import electricity is not billed by the developer. The meter readings showing import electricity are provided in the energy report- See excel document "CDM 00 - GWG Energy_Report_Hourly_data.xlsx" in folder 01. Invoices & energy report					
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>					
<input type="checkbox"/> Changes in the PoA-DD		Section(s):		New version No.:	
<input type="checkbox"/> Changes in the CPA-DD		Section(s):		New version No.:	
<input type="checkbox"/> Changes in MR		Section(s):		New version No.:	
<input type="checkbox"/> Changes in XLS		Worksheet(s):		New version No.:	
<input checked="" type="checkbox"/> Other: Calibration/Testing certificates					
<b>DOE assessment (1<sup>st</sup> round)</b>					<b>Date:</b> 14/04/2021
MR version 2.0, Section A.1 1. Calibration and testing certificates have been provided and confirm the reported dates in the parameter table. The dates represent when new meters were installed at the plant site. The meters are manufacturer-calibrated and do not require scheduled calibrations. Only periodic testing and inspection to ascertain their continued functionality, in line with the PPA and as indicated in the registered CPA monitoring plan. 2. The electricity invoices for net supplied to the grid have been provided for the entire monitoring period. The same has been checked and found to be correct and authentic. However, input values for ER calculations are actual net values exported to the grid (excludes deemed energy credits included in the					

invoices).

3. Import invoices have not been provided separately. However, import data has been provided and as used in the determination of net electricity exported to the grid. The import values have been compared with the net values indicated in the invoices, and the generated export data, and found to be correct and consistent.

**Conclusion**

*Tick the appropriate checkbox*

- ☐ Additional action should be taken (finding remains open)  
☒ The finding is closed

<b>CL ID</b>	<b>02</b>	<b>Section no.</b>	F.5.1	<b>Date:</b> 17/05/2021
<b>Description of CL</b>				
The CME shall clarify how the ex-ante generation value of 30,456 MWh has been arrived at				
<b>Project participant response (1<sup>st</sup> round)</b>				<b>Date:</b> 17/05/2021
A correction has been made on the ex-ante generation value given that in the MR version 2.0 the total value only captured year 4, 5 and 6 and not 3 (i.e. rows K-43 to 45). MR version 3.0 has been generated with the ex-ante generation value now correctly reflected as 35,532 MWh reflecting years 3,4,5 and 6 (i.e. rows K-42 to 45)				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): F.5.1	New version No.: 3.0	
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): Main meter readings	New version No.: 3.0	
<input type="checkbox"/>	Other:			
<b>DOE assessment (1<sup>st</sup> round)</b>				<b>Date:</b> 17/05/2021
The ex-ante generation value has now been corrected with the correct vintage, accurately reflecting the values as per projections in the yield assessment report, prorate for applicable days and reflected in the section 2.5.1 of the CPA-DD.				
<b>Conclusion</b>				
<i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

**Table 5. CARs from this verification**

<b>CAR ID</b>	<b>01</b>	<b>Section no.</b>	Editorials	<b>Date:</b> 21/03/2021
<b>Description of CAR</b>				
MR version 1.0, Editorials				
<ol style="list-style-type: none"> <li>1. Section A.1.2: The CPA reference number is not correct</li> <li>2. Section B.1: Figure 4: invisible</li> <li>3. Section C.1: Figure 6: invisible</li> <li>4. Section C.3.2: Has not been completed in accordance with the template guidelines</li> <li>5. Section C.3.3: Has not been completed in accordance with the template guidelines</li> <li>6. Section C.3.5: Has not been completed in accordance with the template guidelines</li> <li>7. Section D: The description of the parameter <math>EG_{PJ, facility, y}</math> is not in line with the registered CPA-DD</li> <li>8. Section D: Figure 8: Is invisible</li> <li>9. Section E.2: Parameter <math>EG_{PJ, facility, y}</math>: It is not clear what the calibration frequency is, if applicable</li> </ol>				
<b>Project participant response (1<sup>st</sup> round)</b>				<b>Date:</b> 06/04/2021
<ol style="list-style-type: none"> <li>1. CPA reference number now reads CPA 10202-P1-0001-CP1 : ASYV 8.5MW Solar PV Project (CPA-001)</li> <li>2. Figure 4 included</li> <li>3. Figure 6 included</li> <li>4. Section C.3.2: Corrections completed in accordance with CDM-PoA MR Form version 03.0 guidelines</li> <li>5. Section C.3.3: Changes to the start date of the crediting period completed in accordance with CDM-</li> </ol>				

PoA MR Form version 03.0 guidelines		
6. Section C.3.5: Permanent changes completed in accordance with CDM-PoA MR Form version 03.0 guidelines		
7. The description corrected using version 07.0 of the CPA-DD		
8. Figure 8 included		
9. The utility requires no calibration frequency. However, testing for inaccuracy is done every 90 days as guided by the PPA.		
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>		
<input type="checkbox"/> Changes in the PoA-DD	Section(s):	New version No.:
<input type="checkbox"/> Changes in the CPA-DD	Section(s):	New version No.:
<input checked="" type="checkbox"/> Changes in MR	Section(s): C.3.1, C.3.2, C.3.3, C.3.5, D	New version No.: 2.0
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/> Other:		
<b>DOE assessment (1<sup>st</sup> round)</b>		<b>Date: 14/04/2021</b>
MR version 2.0, Editorials		
1. The CPA reference number is corrected to CPA 10202-P1-0001-CP1, which is in line with the UNFCCC-project site		
2. The equipment layout figure has been included and consistent with the technical project information indicated in the approved CPA-DD.		
3. The schematic diagram of the power plant is now included and consistent with the technical project information indicated in the approved CPA-DD.		
4. The section has been correctly completed and checked against the latest CPA-DD (appendix 7) and the CDM-PoA-MR-FORM template guidelines		
5. The section has been correctly completed and checked against the latest CPA-DD and the CDM-PoA-MR-FORM template guidelines		
6. The section has been correctly completed and checked against the latest CPA-DD and the CDM-PoA-MR-FORM template guidelines		
7. The description of the parameter has been corrected and consistent with the CPA-DD		
8. The figure has been included and visible		
9. The utility requires no calibration, as the meters are manufacture calibrated. The same is confirmed via the provided PPA extract		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

<b>CAR ID</b>	<b>02</b>	<b>Section no.</b>	<b>-</b>	<b>Date: 21/03/2021</b>
<b>Description of CAR</b>				
MR version 1.0, ER spreadsheet				
ER Spreadsheet: Tab "Summary": Please correct the MR version				
<b>Project participant response (1<sup>st</sup> round)</b>				<b>Date: 06/04/2021</b>
MR version corrected to 2.0				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				
<input type="checkbox"/> Changes in the PoA-DD	Section(s):	New version No.:		
<input type="checkbox"/> Changes in the CPA-DD	Section(s):	New version No.:		
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:		
<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Summary	New version No.: 2		
<input type="checkbox"/> Other:				
<b>DOE assessment (1<sup>st</sup> round)</b>				<b>Date: 14/04/2021</b>
MR version 2.0, ER Spreadsheet				
The MR version is now corrected. It is consistent with the revised MR.				
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

<b>CAR ID</b>	<b>03</b>	<b>Section no.</b>	F.4, F.5, template	<b>Date:</b> 17/05/2021
<b>Description of CAR</b>				
MR version 2.0, Sections F.4, F.5 and the template The following shall be corrected				
<ol style="list-style-type: none"> <li>1. CME shall apply the latest CDM-PoA-MR-FORM template version 4.0, released on 06/04/2021</li> <li>2. Section: F.4: The CPA reference number shall be corrected</li> <li>3. Section F.5: The CPA reference number shall be corrected</li> </ol>				
<b>Project participant response (1<sup>st</sup> round)</b>				<b>Date:</b> 17/05/2021
The MR has been updated to version 3.0 as follows:				
<ol style="list-style-type: none"> <li>1. The CDM-PoA-MR-FORM template utilized is now version 4.0;</li> <li>2. The CPA reference has been corrected to read CPA 10202-P1-0001-CP1 as per the project page</li> <li>3. The CPA reference has been corrected to read CPA 10202-P1-0001-CP1 as per the project page.</li> </ol>				
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>				
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in MR	Section(s): F.4, F.5, template	New version No.: 3.0	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
<b>DOE assessment (1<sup>st</sup> round)</b>				<b>Date:</b> 17/05/2021
MR version 2.0, ER Spreadsheet				
<ol style="list-style-type: none"> <li>1. The MR has been revised to apply the latest template version 4.0</li> <li>2. The CPA reference number has been corrected</li> <li>3. The CPA reference number has been corrected</li> </ol>				
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

<b>CAR ID</b>	<b>04</b>	<b>Section no.</b>	<b>Title Page, E.2, F.4, F.5, F.5.1</b>	<b>Date:</b> 16/06/2021
<b>Description of CL</b>				
MR version 4.0,				
The following observations shall be clarified or corrected after as noted during the final approval				
<ol style="list-style-type: none"> <li>1. Title Page: The table is not consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>2. Title Page: No reference to an applied standardized baseline</li> <li>3. Section E.2: The referred spreadsheet version is not the latest</li> <li>4. Section E.2: The table shall include all the dates of testing and inspections</li> <li>5. Title F.4: The table is not consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>6. Title F.5: The table is not consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>7. It is unclear and not specified how the ex-ante value is determined from the values given in section 2.5.1 of the DD esp as the value for 2018 / year 3 (considering table in 2.4.4 of DD) are not for the entire year. As per DD 2.5.1 it is given: Year 3 = 2018: 15,366 MWh Year 4 = 2019: 15,274 MWh Year 5 = 2020: 15,182 MWh MP starts 01/09/2018, 4 months of the year and hence, the ex-ante for 2018: 15,366 MWh / 12 x 4 = 5,122 MWh Plus Y4 + Y5 = 5,122+15,274+15,182 = 35,578 MWh. Clarification requested and to be stated in MR how the value is determined.</li> </ol>				
<b>Project participant response (1<sup>st</sup> round)</b>				<b>Date:</b> 24/06/2021

MR version corrected to 5.0 as follows:			
<ol style="list-style-type: none"> <li>1. The table has been corrected to be consistent with the latest PoA MR template</li> <li>2. No standardized baseline is applied. The same is now included as per requirements</li> <li>3. The referred spreadsheet version is now the latest</li> <li>4. The table include all the dates of testing and inspections during the monitoring period</li> <li>5. The 2021 onwards column included as per the latest template</li> <li>6. The table is restored to be as per the latest MR template</li> <li>7. Calculation added. There is a slight difference from your calculation given that the project years do not directly correspond to a calendar year and therefore an adjustment is required, as presented and explained</li> </ol>			
<b>Documentation provided by project participant (1<sup>st</sup> round)</b>			
<input type="checkbox"/>	Changes in the PoA-DD	Section(s):	New version No.:
<input type="checkbox"/>	Changes in the CPA-DD	Section(s):	New version No.:
<input checked="" type="checkbox"/>	Changes in MR	Section(s): Title Page, E.2, F.4, F.5, F.5.1	New version No.: 5.0
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s): 2021 03 04 GwG CDM PoA ER v5.0	New version No.:
<input type="checkbox"/>	Other:		
<b>DOE assessment (1<sup>st</sup> round)</b>			<b>Date: 05/07/2021</b>
MR version 2.0, ER Spreadsheet			
<ol style="list-style-type: none"> <li>1. Title Page: The table is now consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>2. Title Page: A reference to an applied standardized baseline is added</li> <li>3. Section E.2: The referred spreadsheet version is now version 5.0</li> <li>4. Section E.2: The table includes all the dates of testing and inspections</li> <li>5. Title F.4: The table is now consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>6. Title F.5: The table is now consistent with the latest CDM-PoA-MR-FORM_v4.0</li> <li>7. The calculation as per vintage, consistent with the ex-ante yearly estimations has been added to adjudged to be correct</li> </ol>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

Table 6. FARs from this verification

<b>FAR ID</b>	xx	<b>Section no.</b>		<b>Date:</b>	DD/MM/YYYY
<b>Description of FAR</b>					
n.a.					
<b>CME response</b>				<b>Date:</b>	DD/MM/YYYY
<b>Documentation provided by the CME</b>					
<b>DOE assessment</b>				<b>Date:</b>	DD/MM/YYYY
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The FAR is closed			

## Appendix 5. Monitored Parameters

**Table A-5:** Periodic Verification Checklist – Monitored Parameters

Checklist Item (incl. guidance for the verification team)		Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.				
1. EG <sub>PJfacility,y</sub>	CPA No.: 10202-P1-0001-CP1		<b>Description: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y</b>						
<p>0) <b>Measurement / Determination method (VVS, §§ 363-367)</b> <i>Describe how the monitoring parameter was measured / determined. Focus primarily on the original data level (ODL) but also describe the applied data aggregation trails (from ODL to data aggregation level zero (DAL0)). Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used. Furthermore, verify the frequency of measurements as per the requirements. Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>		<p>/MR/ /CPA-DD/ /PoA-DD/ /ER/</p>	<p><i>Description:</i></p> <p>This parameter measures the net electricity exported to the national grid by the CPA.</p> <p>The electricity exported to the grid minus the imported electricity from the grid will be the net electricity exported to the grid.</p> <p>For this monitoring period, the net electricity exported by CPA1 as below:</p> <table><tr><th>CPA</th><th>Net electricity exported (MWh)</th></tr><tr><td>10202-P1-0001-CP1</td><td>30,359</td></tr></table> <p>The data is measured continuously by bi-directional power meters and recorded monthly.</p> <p>There are 3 meters, 1 main, 1 auxiliary, and 1 backup located at the power plant.</p> <p>The monthly protocols and the sale invoices are based on the meters' readings installed at the power plant.</p> <p>Verifier's action:</p> <p>The monthly electricity invoices have been cross-checked with the electricity protocols for both export and import electricity applied in the net electricity calculation.</p> <p>The data in the ER spreadsheets were crosscheck against the monthly electricity protocols and invoices.</p>	CPA	Net electricity exported (MWh)	10202-P1-0001-CP1	30,359	GL-01	OK
CPA	Net electricity exported (MWh)								
10202-P1-0001-CP1	30,359								

**CDM-PoA-VCR-FORM**

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		<div>No delays in calibration occurred.</div> <div>Conclusion: The parameter is monitored according to the registered / revised CPA-DD.</div> <div> <input checked="" type="checkbox"/> In this context the following findings have been raised: <div> <input checked="" type="checkbox"/> CL01 <input type="checkbox"/> </div> </div>		
<b>b) Accuracy, correctness and QA/QC Procedure (VVS, §§ 368-374)</b> <i>In case of measured (or estimated) values, check whether the accuracy of equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan or if significant inaccuracies occur; in this case, make sure that the most conservative assumptions theoretically possible have been made for calculating Ers.</i> <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration of the monitoring equipment has been carried out in line with the latest EB guidance.</i> <i>Include calibration dates and information in validity of the installed monitoring equipment in the table in Appendix 6.</i>	/ MR / / CPADD / / PoADD / / CR / / ER / / GR / / QA / / PO1 / / PO2 / / PO4 / / QA / / EI1 / / EI3 /	<div> <input checked="" type="checkbox"/> It is confirmed that the accuracy of the equipment used for monitoring is controlled and calibrated in accordance with the monitoring plan </div> <div> <input checked="" type="checkbox"/> For details regarding the accuracy and calibration details please refer to Appendix 6 </div> <div> <input checked="" type="checkbox"/> No delayed calibration has occurred </div> <div> <input checked="" type="checkbox"/> As per the initial assessment the monitored value is deemed to be correct. </div> <div> <input checked="" type="checkbox"/> Based on calibration certificates checked it can be confirmed that the monitoring equipment has been duly calibrated for this entire monitoring period. </div> <div> <input checked="" type="checkbox"/> Based on calibration certificates checked a delay in calibration has been identified for the following period:  Start date of delay: N/A  End date of delay: N/A </div> <div> <input type="checkbox"/> A delay in calibration has been identified, the PP applied related actions and therefore the DOE can confirm that the: <div> <input type="checkbox"/> The maximum permissible error of the instrument has been applied to the values during the period between scheduled date of calibration and the actual date of </div> </div>	CL04	OK

**CDM-PoA-VCR-FORM**

Checklist Item (incl. guidance for the verification team)	Reference	Verification Team Comments (Means and results of assessment)		Draft Concl.	Final Concl.		
			calibration				
			<input type="checkbox"/>			The result of the delayed calibration did not identify an error beyond the maximum permissible error of the instrument	
			<input type="checkbox"/>			The error as identified during the delayed calibration has been applied as the error is beyond the maximum permissible error of the instrument	
			<input type="checkbox"/>			The error has been applied in a conservative manner, such that the adjusted measured values of the delayed calibration shall result in fewer claimed GHG emission reductions or net anthropogenic GHG removals	
			<input type="checkbox"/>			The error has been applied all measured values taken during the period between the scheduled date of calibration and the actual date of calibration.	
		<input checked="" type="checkbox"/>	In this context the following findings have been raised:				
		<input checked="" type="checkbox"/>	CL 01				
		<input type="checkbox"/>					

## Appendix 6. Calibration dates and validity of installed monitoring equipment

**Table A-6:** Periodic Verification Checklist – Calibration details

Monitoring equipment	Related monitoring parameter as per applicable registered monitoring plan	Serial number	Type	Accuracy or accuracy class	Previous calibration (last calibration before start of this monitoring period)	testing and inspection date(s) during this monitoring period	Validity of calibration(s) <sup>4</sup>	Delay in calibration: yes/no	Period of delayed calibration
Main Meter	$EG_{PJ, facility, y}$	3507510704209	650E ZMD 402CT44	0.2S	11/10/2016	11/04/2019 16/07/2019 04/11/2019 21/01/2020 04/05/2020 30/07/2020 23/11/2020	N/A	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	From: To:
Backup meter	$EG_{PJ, facility, y}$	3507510704191	650E ZMD 402CT44	0.2S	14/07/2015	05/01/2019 16/07/2019 04/11/2019 21/01/2020 04/05/2020 30/07/2020 23/11/2020	N/A	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	From: To:
Auxiliary meter	$EG_{PJ, facility, y}$	3507510704217	650E ZMD 402CT44.0457S3	0.5S	11/10/2016	30/07/2020 23/11/2020	N/A	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	From: To:

<sup>4</sup> The digital bidirectional meters are factory calibrated and sealed, and therefore, as per manufacturer and supplier, there is no scheduled periodic calibration requirement. The PPA and CPA-DD do not have the provision for periodic calibration as well in the monitoring plan except when tested and found to be faulty.

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	6 April 2021	Revision to: <ul style="list-style-type: none"> <li>• Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).</li> </ul>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN);</li> <li>• Make structural and editorial improvements.</li> </ul>
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	5 June 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: programme of activities, verifying and certifying		