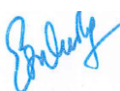




**Verification and certification report form for
CDM project activities
(Version 04.0)**

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

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	70 MW Bhadla Solar power plant (10403) by Fortum Finsurya Energy Pvt Ltd (EKIESL-CDM-APRIL-16-01)
Scale of the project activity	<input type="checkbox"/> Small-scale <input checked="" type="checkbox"/> Large-scale
Version number of the verification and certification report	2.0
Completion date of the verification and certification report	07/01/2022
Monitoring period number and duration of this monitoring period	03, 02/08/2020 to 31/12/2020 (inclusive of both days)
Version number of the monitoring report to which this report applies	2.0
Crediting period of the project activity corresponding to this monitoring period	06/11/2017 - 05/11/2024
Project participants	Fortum FinnSurya Energy Private Limited EKI Energy Services Limited
Host Party	India
Applied methodologies and standardized baselines	ACM0002: Grid-connected electricity generation from renewable sources Version 17.0 Standard Baseline: NA
Mandatory sectoral scopes	1: Energy Industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	N.A
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	49,716 tCO ₂ e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	57,739 tCO ₂ e
Name and UNFCCC reference number of the DOE	TÜV SÜD South Asia Private Limited (TÜV SÜD)-E-0005
Name, position and signature of the approver of the verification and certification report	 Eswar Murty Sr. Manager, Certification Body "Environment and Energy"

	TUV SUD South Asia Pvt Ltd. Pune, India
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SECTION A. Executive summary

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TÜV SÜD South Asia Pvt. Ltd. has performed the first verification of the aforementioned CDM project activity. The verification is based on the currently valid documentation of the United Nations Framework Convention on Climate Change (UNFCCC).

The verification process includes three phases:

- Desk review of documents;
- On-site audit and follow-up interviews with the relevant personnel;
- Resolution of outstanding issues and the issuance of final verification report and opinion.

The project activity is located in Bhadla Village, Tehsil Bap and district Jodhpur in the state of Rajasthan, India. The nearest Airport to the project site is located at Jodhpur, 227 km (4 hrs) away and nearest Railway Station is located at Phalodi, 83 km away from the project site.

Project Investor	Latitude	Longitude	Date of Commissioning
Fortum Finnsurya Energy Private Limited	N 27° 28' 7.00"	E 71° 58' 17.00"	31/03/2017

The project activity has an installed capacity of 70 MW (AC) which qualifies for a large CDM project activity under Type-I of the large-scale methodologies. The annual average of electricity generation and emission reduction over 7 years of crediting period is 122,108 MWh/year and 119,384 tCO_{2e} per year.

2 Clarification Requests (CLs) and 2 Corrective Action Request (CAR) have been raised during the course of verification process and has been successfully closed. No Forward Action Request (FAR) was/were raised during this monitoring period.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interviews	Verification findings
1.	Team Leader, Verifier	EI	Kewat	Shailendra	TUV SUD South Asia	✓		✓	✓
2.	Country expert	EI	Kewat	Shailendra	TUV SUD South Asia	✓		✓	✓

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	Murty	Eswar	TUV SUD South Asia
2.	Approver	IR	Murty	Eswar	TUV SUD South Asia

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

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.	Human errors	Medium	Human error is likely to occur if the monitoring personnel are not trained well or inexperienced in data recording procedures and monitoring processes.	Wherever there is a greater likelihood of errors and chances of incorrect transfer of data, effective data verification should be done on those days/months data. Data related to holiday months need to be checked thoroughly.
2.	Design of data management	Medium	Use of spreadsheets without adequate data control, changes/updates, version tracking, traceability and security	Depending on how data is generated, processed, and reported, place greater emphasis on verifying data captured and processed manually and/or in spreadsheets versus those that are generated from an automated system.
3.	Manual data	Low	Typographic errors in the spreadsheets and log books while recording.	Require the PPs to assess all the data again and confirm that no further errors are made.

C.2. Consideration of materiality in conducting the verification

>>

The errors identified in the project are below the threshold limit of materiality and hence not material. The GHG emission reductions are calculated without material misstatements.

SECTION D. Means of verification**D.1. Desk/document review**

>>

Publication has been initiated before the verification activities started. Based on the published MR the assessment team performed a desk review to:

- verify the completeness of the data and the information presented in the MR,
- check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and verify that the applied methodology was carried out. Particular attention was paid to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures.,

- evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

D.2. On-site inspection

Duration of on-site inspection: DD/MM/YYYY to DD/MM/YYYY				
No.	Activity performed on-site	Site location	Date	Team member
1.				
...				

The DOE has not conducted the on-site inspection for this current monitoring period, which is the first periodic verification of this project activity, due to the Covid-19 pandemic and the ongoing travel restrictions outside the country. The PP has a commitment to deliver CERs before February 2022, which has been confirmed by the DOE based on the submitted Emission Reduction purchase Agreement (ERPA) dated 27th July 2021 and hence the DOE could not postpone the on-site visit.

The DOE has used alternative measures of validation in place of mandatory on-site inspections. This has been done as per the decision taken by CDM-EB on 20 March 2020 and subsequent extension of these alternative measures until 30th June 2022 as per p.28 EB 108 and EB 112. The DOE has used standard auditing techniques as per section 7.1.3 of CDM VVS PA v3.0 to conduct the remote assessment of the PA with the help of web meetings and video conferencing. The interviews and discussions were conducted successfully with the PP and their representatives.

The DOE has conducted web meetings and video conference with PP and their representatives on 12th November 2021. The interviews and discussions were conducted successfully, and it is sufficient for the DOE to verify and prepare the report, in line with p.340 of the CDM VVS PA v3.0.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Paliwal	Dilip	FFEPL, Plant manager	12/11/2021	Project description and implementation, monitoring process, calibration, training Data collection, recording, calibration of meters, data control procedures	Shailendra Kewat
2.	Dogra	Deepak	FFEPL, Sr. Engineer	12/11/2021	Project description and implementation, monitoring process, calibration, training Data collection, recording, calibration of meters, data control procedures	Shailendra Kewat
3.	sadevra	Vivek	FFEPL, manager	12/11/2021	Project description and implementation, monitoring process, calibration, training Data collection, recording, calibration of meters, data control procedures	Shailendra Kewat
4.	Gurhosur	Shraddha	Infinite Solutions (Consultant)	12/11/2021	MR preparation, ER calculations	Shailendra Kewat

D.4. Sampling approach

>>

Not Applicable

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form			
Compliance of the project implementation and operation with the registered PDD			
Post-registration changes			
Compliance of the registered monitoring plan with the			

methodologies including applicable tools and standardized baselines			
Compliance of monitoring activities with the registered monitoring plan		1	
Compliance with the calibration frequency requirements for measuring instruments	1		
Assessment of data and calculation of emission reductions or net removals	1	1	
Assessment of reported sustainable development co-benefits			
Global stakeholder consultation			
Others (please specify)			
Total	2	2	

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	To check the compliance of the monitoring report with the latest monitoring report form available at UNFCCC
Findings	The latest version of MR form available at UNFCCC is 8.0 and same has used by the project proponent in the monitoring report.
Conclusion	TUV SUD confirms that the monitoring report has been prepared as per the latest version of the MR available at UNFCCC.

E.2. Remaining forward action requests from validation and/or previous verifications

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No FAR have been presented, neither in the validation report nor in the previous verification report.

E.3. Compliance of the project implementation and operation with the registered project design document

Means of verification	The audit team has checked the project Implementation in accordance with the registered Project Design Document (PDD) according to the requirement of CDM VVS PA ver 3.0 p.354 and p.355.																		
	The project activity is located in Village Bhadla, Tehsil Bap and district Jodhpur in the state of Rajasthan, India. The nearest Airport to the project site is located at Jodhpur, 227 km (4 hrs) away and nearest Railway Station is located at Phalodi, 83 km away from the project site.																		
	The project activity has an installed capacity of 70 MW (AC) which qualifies for a large CDM project activity under Type-I of the large-scale methodologies. The technical specification of the equipment is tabulated below:																		
	<table border="1"> <tr> <th>Technical detail of the equipment</th> <th>Remark</th> </tr> <tr> <td>Technology</td> <td>Solar PV Module</td> </tr> <tr> <td>Solar photovoltaic module</td> <td>First solar series 4TM PV Module</td> </tr> <tr> <td>No of Modules</td> <td>112.5 Wp :- 88800, 115 Wp :-587000, 117.5Wp :- 85200</td> </tr> <tr> <td>Make</td> <td>First Solar</td> </tr> <tr> <td>Capacity</td> <td>112.5Wp, 115Wp,117.5Wp</td> </tr> <tr> <td>No of inverters</td> <td>70</td> </tr> <tr> <td>Make</td> <td>ABB</td> </tr> <tr> <td>Capacity</td> <td>1000KVA</td> </tr> </table>	Technical detail of the equipment	Remark	Technology	Solar PV Module	Solar photovoltaic module	First solar series 4TM PV Module	No of Modules	112.5 Wp :- 88800, 115 Wp :-587000, 117.5Wp :- 85200	Make	First Solar	Capacity	112.5Wp, 115Wp,117.5Wp	No of inverters	70	Make	ABB	Capacity	1000KVA
	Technical detail of the equipment	Remark																	
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	Make	First Solar																	
	Capacity	112.5Wp, 115Wp,117.5Wp																	
No of inverters	70																		
Make	ABB																		
Capacity	1000KVA																		

	No. of transformers	18 (ITD) + 2 (PT)
	Technical & Operational Lifetime	25 years
	<p>The project is already commissioned on 31/03/2017 date and supplying generated electricity to Indian grid. There is no such events or situations happened during the reported monitoring period which can alter the applicability of the applied methodology. The audit team has verified the Commissioning certificate and photographs of the Solar panels and energy meters to confirm the same.</p> <p>There were no major shutdown during the monitoring period. The same has been verified by the DOE from the plant records.</p> <p>The operation of the project activity complies with all applicable statutory requirements in India.</p> <p>All the metering equipment have been found installed and are operational. The verification team has checked the generation data and the calibration certificates of the energy meters.</p> <p>There is no event or situation occurred during this monitoring period which has impacted the applicability of methodology. There was no diversion from the implementation details given in the registered PDD during this reported monitoring period.</p>	
Findings	No CAR/CL raised	
Conclusion	The verification team has verified the implementation of the project activity as per p.354 and p.355 of CDM VVS PA ver 3.0 and found to be correct. The project activity has been implemented and operated as stated in the registered PDD which has been confirmed during the interviews.	

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents¹

>>
Not applicable

E.4.2. Corrections

>>
Not applicable

E.4.3. Changes to the start date of the crediting period

>>
Not applicable

E.4.4. Inclusion of a monitoring plan

>>
Not applicable

¹ 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).

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

>>
Not applicable

E.4.6. Changes to the project design

>>
Not applicable

E.4.7. Changes specific to afforestation and reforestation project activities

>>
Not applicable

E.5. Compliance of the registered monitoring plan with applied methodologies, applied standardized baselines, and other applied methodological regulatory documents

Means of verification	As per the applied methodology, monitoring shall consist of measuring the quantity of net electricity generation supplied by the project plant/unit to National grid. Continuous monitoring is done through energy meters. There is no deviation observed between monitoring plan of the project activity with the monitoring plan of the applied methodology of the project activity. The DOE has verified the monitoring procedure implemented by the PP based on the discussions and verification of generation data.
Findings	CAR 02 has been raised and closed successfully
Conclusion	The registered monitoring plan and monitoring system implemented are in accordance with the approved methodology applied by the proposed CDM project activity i.e. <u>ACM0002 ver. 17</u> as per the CDM VVS PA ver 03.0. Based on the above observations, the verification team confirms that the registered monitoring plan complied with the approved methodology applied by the registered CDM project activity thus satisfies requirements of CDM p.357, VVS PA ver 3.0.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Data and parameters fixed ex-ante as listed in the monitoring report have been crosschecked and reviewed as applicable against the registered PDD, monitoring plan as well as against the applied methodology and other relevant CDM related documentation. The ex ante values fixed are the Operating margin Grid EF, Build margin Grid EF and Combined Margin Grid EF as per the registered PDD Values are EFgrid,OM,y- 0.9941 EFgrid,BM,y - 0.9285 EFgrid,CM,y - 0.9777 Calculated from CEA database, Version 11, April 2016
Findings	No CAR/CL has been raised
Conclusion	TÜV SÜD confirms that the PP has considered the Grid emission factors which has been fixed ex-ante and are in line with the requirements of CDM VVS PA v3.0.

E.6.2. Data and parameters monitored

Means of verification	Referring to p.360, p.361, p.363 and p.364 of CDM VVS PA, v3.0, the below tables provide a summary on the verification of each monitoring parameter listed in the registered monitoring plan.												
	<table border="1"> <tr> <td>Data / Parameter:</td> <td>EG PJ, y</td> </tr> <tr> <td>Data unit:</td> <td>MWh</td> </tr> <tr> <td>Description:</td> <td>Quantity of net electricity generation supplied by the project plant to the grid in year y in MWh</td> </tr> <tr> <td>Source of data used:</td> <td>Monthly joint meter reading reports (70 MW)</td> </tr> <tr> <td>Means of verification/Comments:</td> <td>Data monitored at the project activity site with electricity meters and calculated by subtracting imported electricity from exported electricity. The main meters and check meters are used to record the data continuously The audit team has checked and the meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years. The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale.</td> </tr> <tr> <td>Cross-check</td> <td>Invoice raised by PP to the electricity authority has been cross verified by VVB</td> </tr> </table>	Data / Parameter:	EG PJ, y	Data unit:	MWh	Description:	Quantity of net electricity generation supplied by the project plant to the grid in year y in MWh	Source of data used:	Monthly joint meter reading reports (70 MW)	Means of verification/Comments:	Data monitored at the project activity site with electricity meters and calculated by subtracting imported electricity from exported electricity. The main meters and check meters are used to record the data continuously The audit team has checked and the meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years. The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale.	Cross-check	Invoice raised by PP to the electricity authority has been cross verified by VVB
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	Data unit:	MWh											
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Cross-check	Invoice raised by PP to the electricity authority has been cross verified by VVB												
Findings	CAR 1 has been raised since the MR does not present the line diagram of meters clearly. PP has included the same in the MR.												
Conclusion	<p>The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. All parameters were monitored and determined as per the registered monitoring plan. Referring to p.360, p.361, p.363 and p.364 of CDM VVS PA, v3.0, DOE confirms through video call and telephonic interviews and from the document review, the actual monitoring system complies with the registered monitoring plan. The substantiation of this conformity on information flow for these parameters including the values in the monitoring reports is reported in the above</p> <p>During the verification, all relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method, the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. After appropriate corrections, carried out by the project participant, it is confirmed that all monitoring parameters have been measured / determined without material misstatements and are in line with all applicable standards and relevant requirements.</p> <p>All parameters required to be monitored are recorded at the intervals required by the registered monitoring plan and the applied methodology. On the basis of review of source and nature of available evidences and records, the verification team confirms the quality of evidence for emission reduction provided is sufficient as per CDM VVS PA, v3.0.</p>												

E.6.3. Implementation of sampling plan

Means of verification	Not Applicable
Findings	Not Applicable
Conclusion	Not Applicable

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	The audit team has checked the calibration certificates and records of the monitoring equipment as given below. First calibration was considered on the commissioning date, when new meter has been installed.
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	Equipment	Serial No.	Manufacturer	Accuracy class	Calibration date	Valid till
	Main Meter	16195106	L&T	0.2s	13/03/2018	13/03/2023
	Check Meter	16195107	L&T	0.2s	13/03/2018	13/03/2023
	The audit team has verified the Central Electricity Authority (CEA) guidelines which states that calibration should be conducted at least once in 5 years. The frequency of calibration is 5 years as mentioned in the registered PDD and as per the Central Electricity Authority (CEA) guidelines.					
Findings	No CAR/CL has been raised.					
Conclusion	The DOE confirms that the calibration certificates of all the meters has been checked. The DOE also confirms that the overall calibration frequency requirements is found to be correct as per p.365, p.366 of CDM VVS PA ver 3.0.					

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	The assessment of data and the calculation of baseline emission reduction in the MR and the CER excel sheet have been verified as per the following set of supporting documents: 1. Invoices 2. Joint metering reports 3. CER spreadsheets
Findings	No CAR/CL has been raised.
Conclusion	Calculations applied formulae and method for calculation of baseline emission are in accordance with the registered monitoring plan and are in line with the requirements of the applied methodology.

E.8.2. Calculation of project GHG emissions or actual net anthropogenic GHG removals by sinks

Means of verification	No project emissions since this is a solar power project.
Findings	Not applicable
Conclusion	Not applicable.

E.8.3. Calculation of leakage GHG emissions

Means of verification	No leakage emission
Findings	No leakage emission
Conclusion	No leakage emission

E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	No lack of evidence and missing data were detected during this monitoring period. All values as per the monitoring plan were cross checked by the verification team against basic monitored data and the calculations were found to be correct. The verification team confirms that all assumptions, emission factors and default values have been correctly justified. All the emission factors, application of maximum permissible errors and default values are explicitly mentioned in the monitoring report. Hence the DOE confirms that the methods and formulae used to obtain the emissions are appropriate.
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	<p>No reporting risks have been identified for the data reported. Troubleshooting procedure, maintenance and calibration of monitoring equipment, monitoring measurements and reporting, record handling and maintenance, reviewing monitored data are available at the plant. All the monitored data are archived partially in electronic and paper form. The data will be kept for the whole crediting period and 2 years after the last crediting period thereby meeting the requirement of the monitoring plan.</p> <p>Verified emission reductions in this monitoring period: 57,739 (round down to nearest integer) tCO₂e</p> <p>Baseline: 57,739 tCO₂e Project emissions: 0 tCO₂e Leakage: 0 tCO₂e</p>
Findings	CL 01 and CAR 02 were raised, since emission reduction was not consistent and apportioning information was missing in the MR.
Conclusion	<p>The formulae and the methods referred in the MR and the emission reduction calculation spread sheet comply with the methods described in the registered PDD.</p> <p>No lack of evidence and missing data were detected during this monitoring period. All values as per the monitoring plan were crosschecked by the verification team against basic monitored data and the GHG emission calculation is found correct.</p> <p>TUV SUD confirms that all assumptions, emission factors and default values have been correctly justified. All the emission factors and default values are explicitly mentioned in the monitoring report. Calculations applied formulae and method for calculation of GHG emission are in accordance with the registered monitoring plan and are in line with the requirements of the applied methodology and p. 372, p.373 of CDM VVS PA ver 3.0.</p>

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	TUV SUD compared the ex-ante estimation of emission reductions in the registered PDD with the emission reductions reported by the PPs in the monitoring report.
Findings	No CL/CAR has been raised.
Conclusion	TUV SUD confirms that the emission reductions are real and measurable.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	<p>TUV SUD compared the ex-ante estimation of emission reductions in the registered PDD with the emission reductions reported by the PPs in the monitoring report. Actual Emission reduction is 16.14% higher than the expected emission reduction for the equivalent period in the registered CDM-PDD.</p> <p>Since monitoring period comprises only 5 months which does not represents whole year generation and a variation of 16.14% is acceptable.</p>
Findings	No CL/CAR has been raised.
Conclusion	TUV SUD confirms that the emission reductions are real and measurable as per p.373 of CDM VVS PA ver 3.0.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	The reported GHG emission reductions reported in the monitoring report are 57,739 tCO ₂ e. As described in detail in Section E of this report, all relevant aspects of the project activity have been assessed in order to determine, whether the claimed emission reductions by the PPs are correctly determined, reasonable and fairly stated and based on verifiable evidence and in accordance with the applied methodology, the registered PDD and the monitoring plan.
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	The monitoring period of the present verification is from 02/08/2020 to 31/12/2020
Findings	No CL/CAR has been raised.
Conclusion	TUV SUD confirms that the GHG emission reduction of the present monitoring period is 57,739 tCO ₂ e.

E.9. Assessment of reported sustainable development co-benefits

Means of verification	Not Applicable
Findings	Not Applicable
Conclusion	Not Applicable

E.10. Global stakeholder consultation

Means of verification	The DOE confirms that no comments have been received during global stakeholder consultation.
Findings	Not Applicable
Conclusion	Not Applicable

SECTION F. Internal quality control

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Internal quality control within the team is assured by means of a technical review process that takes place after the remote-site assessment and after closure of findings. The internal quality control in the verification process is given by the final decision (Verification and Certification Conclusion) made by the CB "Environment and Energy".

SECTION G. Verification opinion

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The DOE confirms that

- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the project is operated as planned and described in the project design document approved by the EB;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the monitoring plan in Monitoring Report is as per the PDD and monitoring plan approved by the EB;
- the approved monitoring plan in the approved PDD is as per the applied methodology;
- There is an audit trail that contains the evidence and records that validate the stated figures.

Based on the information we have seen and evaluated, we confirm that the project activity achieved the verified amount of reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the project activity.

Verified emission reductions in this monitoring period: 57,739 tCO₂e

Baseline:	57,739 tCO ₂ e
Project emissions:	0 tCO ₂ e
Leakage:	0 tCO ₂ e

SECTION H. Certification statement

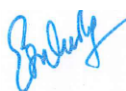
TÜV SÜD South Asia Pvt. Ltd. has performed the periodic verification CDM project activity “70 MW Bhadla Solar power plant by Fortum Finnsurya Energy Pvt Ltd (EKIESL-CDM-APRIL-16-01)” . The verification is based on the currently valid documentation of the United Nations Framework Convention on Climate Change (UNFCCC).

The management of Fortum Finnsurya Energy Pvt Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions on the basis set out within the project’s Monitoring Plan indicated in the registered PDD and the applied methodology.

TUV SUD conducted the verification on the basis of the monitoring methodology “ACM0002- Grid-connected electricity generation from renewable sources- Version 17”, registered PDD, validation report and the monitoring report, emission reduction spreadsheets and all the supporting documentation made available to us.

TÜV SUD confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have assessed; we confirm that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

Pune, 07/01/2022



Eswar Murty

Certification Body “Environment and Energy”
TÜV SÜD South Asia Pvt Ltd

Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CO₂e	Carbon dioxide equivalent
CR / CL	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EGAT	Energy Generating Authority of Thailand
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission Reduction
FAR	Forward Action Request
FFEPL	Fortum Finnsurya Energy Pvt Ltd
GHG	Greenhouse Gas(es)
GWP	Global Warming Potential
IRL	Information Reference List
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organisation
OM	Operational Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	Project Standard
TÜV SÜD	TÜV SÜD South Asia Pvt. Ltd
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Clean Development Mechanism Validation And Verification Standard for PA

Appendix 2. Competence of team members and technical reviewers

ZERTIFIKAT ♦ CERTIFICATE ♦ 認証証書 ♦ СЕРТИФИКАТ ♦ CERTIFICADO ♦ CERTIFICAT



CERTIFICATE OF APPOINTMENT

Mr. Kowal, Shajindra fulfills the requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt. Ltd to participate in audits.

Standard	Qualification applicable to				
	CDM	GS	VCS	ISO-14004-1,2	Other
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Status	Qualification as					
	Validator	Verifier	ATL	Technical Reviewer	Finance Expert	Technical Expert
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Region	Country Expertise					
	1	2	3	4	5	Other
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Further countries	India, South Africa					


Technical Area/Scopes
1.2_Renewables
3.1_Energy Demand (GHG)
5.1_Chemical Industries
13.1_Waste handling and disposal (GHG)
Power generation and electrical power transactions/renewable/nonrenewable (GHG)

This appointment is valid until 30/09/2022 and is bound by internal requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt. Ltd.
 In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.
 Your Certificate has the internal reference no. CB-IND-CCP-0105/003.

Date	Signature
01/10/2021	

IS-CMS-CB-POG-01/05 version 03

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT



CERTIFICATE OF APPOINTMENT

Mr. Murty, Eswar fulfills the requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	ISO-14004-1,2	Other
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>


Qualification as						
Status	Validator	Verifier	ATL	Technical Reviewer	Financial Expert	Technical Expert
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TA (s)	1, 1, 1, 2, 3, 1, 4, 1	13, 1				

Country Expertise						
Region	1	2	3	4	5	Other
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Further countries	Ind, Indonesia					

Technical Area/Scopes

1.1 Thermal Energy Generation
 1.2 Renewables
 3.1 Energy demand
 4.1 Cement and lime production, General Manufacturing (physical and chemical inc. construction) (GHG), General (GHG)
 3.1 Waste handling and disposal (GHG)
 Power generation and Electrical power transactions (renewable/non-renewable) (GHG)

This appointment is valid until 31.05.2022 and is bound by internal requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd.
 In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.
 Your Certificate has the internal reference no. CB-IND-CCP-0031/012.

Date	Signature
01/06/2021	

S-CMS-CE-PO3-01/06, version 06

TUV SUD South Asia • Station: P. Block • T. Street • Sub • Post-41100 • Tel. (91) 20 62 11 20 • Fax: (91) 20 62 11 21

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	UNFCCC	Project 10403 https://cdm.unfccc.int/Projects/D/B/Applus1506003422.59/view	---	UNFCCC
2	UNFCCC	Methodology ACM0002- Grid-connected electricity generation from renewable sources- Version 17		UNFCCC
3	UNFCCC	Registered PDD Version 3	23/08/2019	
4	FFEPL	Monitoring report. version 1	07/10/2021	PP
5	FFEPL	Monitoring report. version 2	30/11/2021	PP
6	FFEPL	ER calculation spreadsheet version 2	30/11/2021	PP
7	Rajasthan Renewable Energy Corporation Limited	Commissioning Certificate for 70 MW Solar power plant	31/03/2017	PP
8	FFEPL	Monthly Invoices for Solar power plant	01/08/2020 to 31/12/2020	PP
9	FFEPL	Monthly JMR for Solar power plant	01/08/2020 to 31/12/2020	PP
10	DARSH CALIBRATIONS PVT. LTD	Calibration Certificates for Solar power plant for Main and check meters	13/03/2018	PP
11	Infinite / FFEPL	Emission Reductions Purchase Agreement	27/07/2021	PP
12	FFEPL	Photographs of the plant and energy meters		PP
13	Google Earth	GPS coordinates of the Solar power plant		

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

Table 1. Remaining FAR from validation and/or previous verifications

Not Applicable

Table 2. CL from this verification

CL ID	01	Section no.	A.5, E.5.1	Date: 22/11/2021
Description of CL				
Electricity generation values are not consistent in MR and ER sheet				
Project participant response				Date: 30/11/2021
Electricity generation values has been made consistent in MR and ER sheet The electricity generated is 59,055 Mwh and Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period is 57,739 tCO _{2e}				
Documentation provided by project participant				
Revised MR and ER				
DOE assessment				Date: 15/12/2021
Revised MR and ER received. Values are consistent. CL is closed				

CL ID	02	Section no.	MR	Date: 22/11/2021
Description of CL				
PP has to submit the following documents:				
<ol style="list-style-type: none"> 1. Calibration details of meters 2. Latest photographs of the site 3. ERPA 				
Project participant response				Date: 30/11/2021
the following documents is submitted to assessment team:				
<ol style="list-style-type: none"> 1. Calibration details of meters 2. Latest photographs of the site 3. ERPA 				
Documentation provided by project participant				
<ol style="list-style-type: none"> 1. Calibration details of meters 2. Latest photographs of the site 3. ERPA 				
DOE assessment				Date: 15/12/2021
Requested documents are received. CL is closed				

Table 3. CAR from this verification

CAR ID	01	Section no.		Date: 22/11/2021
Description of CAR				
PP to provide the single line diagram of the meters installed in the plant				
Project participant response				Date: 30/11/2021
The single line diagram of the meters installed in the plant has been added to MR				
Documentation provided by project participant				
Revised MR				
DOE assessment				Date: 15/12/2021
Single line diagram included in the revised MR. CAR is closed				

CAR ID	02	Section no.	A.5, E.5.1	Date: 22/11/2021
Description of CAR				
Generation for the month of August has been apportioned but same has not been reflected in the ER calculation. Also apportioning procedure should be explained in the MR as well.				
Project participant response				Date: 30/11/2021
<p>As the monitoring period starts from 02/08/2021 the generation for the month of august has been apportioned the same has been reflected in the ER sheet.</p> <p>The apportioning procedure has been added to the revised MR. The apportioning procedure is as follows: In case the dates of a particular monitoring period do not match with the dates of the billing period, the net electricity exported to the grid would be calculated from:</p> <p>Generation ratio = (A/B)</p> <p>Electricity exported= (A/B) *C</p> <p>Where, A = Electricity exported for entire billing period as per daily generation data from the standby meter B = Electricity exported for the mismatch days as per daily generation data from the standby meter C = Electricity supplied to the grid as per JMR for that given billing period/ month.</p> <p>The calculated value after apportioning would be used for calculation of emission reductions during that period.</p> <p>As per this procedure A= 11450.640 B= 11914.272 C=11901360</p> <p>Generation ratio = 11450.640/11914.272 = 0.96</p> <p>Electricity exported=0.96*11901360 = 1,14,38,230</p>				
Documentation provided by project participant				
Revised MR and ER				
DOE assessment				Date: 15/12/2021
Revised MR and ER received. CAR is closed				

Table 4. FAR from this verification

Not Applicable

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
04.0	6 April 2021	Revision to: <ul style="list-style-type: none"> • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN); • Make structural and editorial improvements.
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.

Decision Class: Regulatory
 Document Type: Form
 Business Function: Issuance
 Keywords: project activities, verifying and certifying