GHANI SOLAR RENEWABLE POWER PROJECT BY GREENKO GROUP

India's Largest Carbon Credit Developer & Supplier

Document Prepared by EKI Energy Services Limited

Project Title	Ghani Solar Renewable Power Project by Greenko Group
Version	02
Report ID	VVER18002
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy sources. The project activity involves installation of a 500 MW solar power project in Andhra Pradesh state of India.

Over the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 996,010 tCO2e per year, thereon displacing 1,051,200 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel based power plant.

The project is a bundled project activity by Greenko Group and the project is promoted by Zuvan Energy Private Limited. The details of the project and their location of installation are mentioned in the table below:-

Name of Investor	Capacity in MW	COD	Connection with Grid	State	Usage
Aarish Solar Power Private Limited	50 MW	31-March-2017	Indian Grid	Andhra Pradesh	Sale to State DISCOM
Aashman Energy Private Limited	50 MW	31- March-2017			
Divyesh Power Private Limited	50 MW	31- March-2017			
Elena Renewable Energy Private Limited	50 MW	31- March-2017			
Pratyash Renewable Private Limited	50 MW	31- March-2017			
SEI Baskara Power Private Limited	50 MW	31- March-2017			
SEI Enerstar Renewable Energy Private Limited	50 MW	31- March-2017			
SEI Mihir Energy Private Limited	50 MW	31- March-2017			
Shreyash Renewable Energy Private Limited	50 MW	31- March-2017			
Zuvan Energy Private Limited	50 MW	31- March-2017			

During the Current Monitoring Period from 01-July-2018 to 30-Septemeber-2019 (First and last date included), the project activity has supplied 1,510,794.81 MWh of electricity, and thus contributing to the GHG reductions 1,431,477 tCO_2e.

1.2 Sectoral Scope and Project Type

The project activity falls under the following Sectoral scope and Project Type:

Sectoral Scope : 01 - Energy industries (renewable / non-renewable sources)
Project Type : I - Renewable Energy Projects
Project Category : Grid-connected electricity generation from renewable sources ACM0002- Version 18.1[1]
The project is not a grouped project activity.

1.3 Project Proponent

Organization name	Zuvan Energy Private Limited
Contact person	Murali Krishnam Raju M
Title	Sr Manager - CDM & GIMS
Address	2/127/21/16, Silpa Singapore Township, Kurnool-518007, Andhra Pradesh, India
Telephone	+91 40 40300100
Email	info@greenkogroup.com

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Mr. Prakash Sahu
Title	Project Manager
Address	Office No 201, Plot No 48, Scheme 78, Vijay Nagar Part- II, Indore 452010, India
Telephone	+91-9589899649
Email	prakash@enkingint.org

1.5 Project Start Date

Start date of the project activity is the earliest date of interconnection with the grid i.e. 31-March-2017. This is the date of commissioning of 50 MW Solar Project activity each developed by Aarish

[1] http://cdm.unfccc.int/methodologies/DB/5725LCHYPYM4I1V8OD9SFYVAMFFWNP

Solar Power Private Limited, Aashman Energy Private Limited, Divyesh Power Private Limited, Elena Renewable Energy Private Limited, Pratyash Renewable Private Limited, SEI Baskara Power Private Limited, SEI Enerstar Renewable Energy Private Limited, SEI Mihir Energy Private Limited, Shreyash Renewable Energy Private Limited and Zuvan Energy Private Limited.

The details of the commissioning dates of the individual project activity are mentioned in the section 1.1 of this report.

1.6 Project Crediting Period

Crediting Period Start date : 31-March-2017
Crediting Period End date : 30-March-2027
The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times.

1.7 Project Location

The details of the project locations are mentioned in the table below

Name of Investor	Capacity (MW)	Village Tehsil / Mandal	District	State	Latitude (N)	Longitude (E)
Aarish Solar Power Private Limited	50 MW	Ghani Solar Park	Kurnool	Andhra Pradesh	15° 39' 46.80" N	78° 16' 04.80" E
Aashman Energy Private Limited	50 MW				15° 40' 48.0" N	78° 14' 24.0" E
Divyesh Power Private Limited	50 MW				15° 39' 03.60" N	78° 15' 21.60" E
Elena Renewable Energy Private Limited	50 MW				15° 40' 26.40" N	78° 14' 56.40" E
Pratyash Renewable Private Limited	50 MW				15° 40' 33.60" N	78° 14' 13.20" E
SEI Baskara Power Private Limited	50 MW				15° 39' 10.80" N	78° 15' 46.80" E
SEI Enerstar Renewable Energy Private Limited	50 MW				15° 40' 40.80" N	78° 15' 25.20" E
SEI Mihir Energy Private Limited	50 MW				15° 41' 06.00" N	78° 16' 30.00" E
Shreyash Renewable Energy Private Limited	50 MW				15° 39' 21.60" N	78° 15' 10.80" E
Zuvan Energy Private Limited	50 MW				15° 39' 43.20" N	78° 15' 39.60" E

The project locations have been shown in the map below:

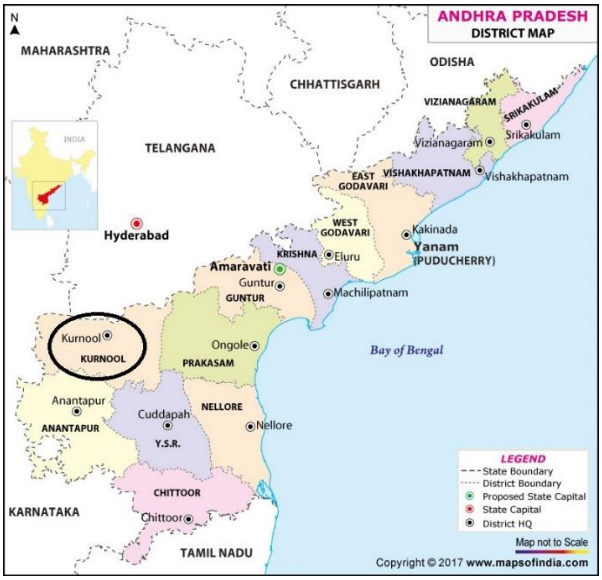


Figure 1. Satellite Project locations

1.8 Title and Reference of Methodology

Title : Grid-connected electricity generation from renewable sources

Reference : The project activity meets the eligibility criteria of large scale project as it is more than 15 MW

Methodology : ACM0002: Grid-connected electricity generation from renewable sources - Version 18.1[2]
Type I : Energy industries (renewable / non-renewable sources)
Category : Approved Consolidated Methodology (ACM0002)

Tools referred with above methodology and applicable for project activity are:

- Tool to calculate the emission factor for an electricity system[3] - Version 07.0 (EB 100, Annex 04)
- Methodological Tool- Tool for the demonstration and assessment of additionality[4] - Version 07.0.0 (EB 70, Annex 08)

1.9 Participation under other GHG Programs

Not Applicable, as the project activity is not registered with any other program.

The undertaking from PP has been submitted for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS.

1.10 Other Forms of Credit

The project activity is not availing any REC benefits and the same can be confirmed from publically available link of REC generators.

Web-link: https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens PP has also submitted undertaking for not availing other forms of environmental credit for the same crediting period under consideration.

1.11 Sustainable Development

Contribution to sustainable development:

Ministry of Environment, Forests and Climate Change, GoI, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

- **Social well-being:** The project would help in generating employment opportunities during the construction and operation phases. The project activity will lead to development in infrastructure in the region like development of roads and also may promote business with improved power generation.

[2] http://cdm.unfccc.int/methodologies/DB/5725LCHYPYM4I1V8OD9SFYVAMFFWNP
[3] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf
[4] http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf

- **Economic well-being:** The project is a clean technology investment in the region, which would not have been taken place in the absence of the VCS benefits the project activity will also help to reduce the demand supply gap in the state.

  The project activity will generate power using zero emissions solar energy based power generation which helps to reduce GHG emissions and specific pollutants like SOx, NOx, and SPM associated with the conventional thermal power generation facilities.

- **Technological well-being:** The successful operation of project activity would lead to promotion of solar power generation and would encourage other entrepreneurs to participate in similar projects.

- **Environmental well-being:** Solar being a renewable source of energy, it reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion. Due to its zero emission the Project activity also helps in avoiding significant amount of GHG emissions.

2 SAFEGUARDS

2.1 No Net Harm

The project activity does not involve any major construction activity. It primarily requires the installation of the solar PV panels, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.

The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. This report clearly mentioned that solar PV project activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same[5].

Thus there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

2.2 Local Stakeholder Consultation

The project has already been registered under VCS mechanism, hence it is not applicable.

2.3 AFOLU-Specific Safeguards

Not applicable to this as this is not an AFOLU project activity.

[5] http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity involves the installation of solar project. The total installed capacity of the project is 500 MW Solar project located at Andhra Pradesh state in India. The project is a bundled project activity by Greenko Group and the project is promoted by Zuvan Energy Private Limited.

The Project activity is a new facility (Greenfield) and the electricity generated by the project will be exported to the Indian electricity grid. The project will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The Project Proponent plans to avail the VCS benefits for the project.
In the Pre- project scenario the entire electricity, delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.
The project shall result in replacing anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 996,010 tCO_2e per year, thereon displacing 1,051,200 MWh/year amount of electricity from the gird over the 10 years crediting period.
The technical specification for 50 MW solar project by Aarish Solar Power Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Aashman Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Divyesh Power Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp

3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Elena Renewable Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Pratyash Renewable Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by SEI Baskara Power Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by SEI Enerstar Renewable Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)

2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by SEI Mihir Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Shreyash Renewable Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

The technical specification for 50 MW solar project by Zuvan Energy Private Limited.

Sl. No.	Technical details of the equipment	Description
1	Technology Used	Solar PV technology (Poly-Crystaline)
2	Module capacity	Module capacity- 315 Wp 320 Wp & 325 Wp
3	Number of Inverters , Inverter Make & Model	56 Inverters SMA/Sunny Central 1000CP XT
4	Modules per String	21
5	Tilt	Fixed Tilt

3.2 Deviations

2.3.1 Methodology Deviations

No methodology deviation is applied during the monitoring period.

2.3.2 Project Description Deviations

No deviation has taken place in project description during the monitoring period.

3.3 Grouped Projects

The project is not a grouped project thus this is not applicable.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	$EF_{grid, OM, y}$
Data unit	tCO_2/MWh
Description	Operating margin CO_2 emission factor for the project electricity system in year y
Source of data	Calculated from CEA database, Version 13, June 2018[6]
Value applied	0.9726
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as 3-year generation weighted average using data for the years 2014-15, 2015-16 & 2016-17. The data are obtained from "CO2 Baseline Database for Indian Power Sector" version 13, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid, BM, y}$
Data unit	tCO_2/MWh
Description	Build margin CO_2 emission factor for the project electricity system in year y
Source of data	Central Electricity Authority (CEA) of India Database Version 13
Value applied	0.8723
Justification of choice of data or description of	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07" as per the latest data available for

[6] http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver13.pdf

measurement methods and procedures applied	the most recent year 2016-17. The data is obtained from "CO2 Baseline Database for Indian Power Sector" version 13, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	Calculation of baseline emissions
Comments	The above value is fixed and it is same for the entire crediting period

Data / Parameter	$EF_{grid, CM, y}$
Data unit	tCO_2/MWh
Description	Combined margin CO2 emission factor for the project electricity system in year y
Source of data	Calculated from CEA database, Version 13, June 2018[7]
Value applied	0.9475
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * WOM + EF_{grid, BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$= Build margin CO2 emission factor in year y (tCO2/MWh) $EF_{grid,OM,y}$= Operating margin CO2 emission factor in year y (tCO2/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM}= Weighting of build margin emissions factor (%) = 25%
Purpose of Data	Calculation of baseline emissions
Comments	The above value is fixed and it is same for the entire crediting period

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{PJ, y}$
Data unit	MWh/y
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)
Source of data	Monthly joint meter reading reports

[7] http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver13.pdf

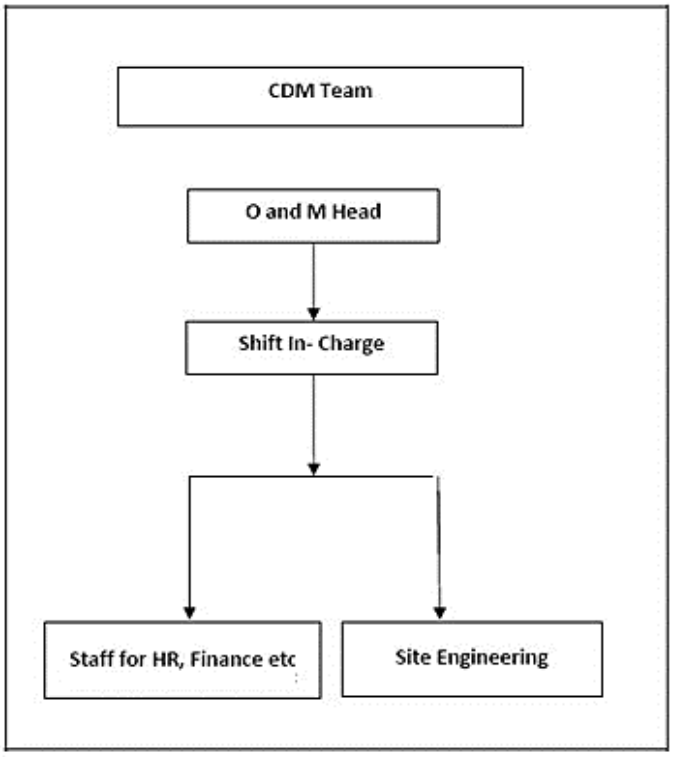
Description of measurement methods and procedures to be applied	The difference of final value of export and import is used for monthly values of net electricity supplied to the grid by the project activity and same value will be considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	1,510,794.81
Monitoring equipment	The electricity exported / supplied by the plant to pooling substation and further to substation. This meter also measures electricity imported by the plant from the grid. There are numerous meters used in this project activity and the details including Meter serial number, Make, accuracy class and the calibration dates are mentioned APPENDIX 1: Calibration Records
QA/QC procedures to be applied	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.[8] The monthly electricity supplied/exported by the project activity in the JMR report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines will be applied appropriately to confirm the conservativeness of metering. The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and PP does not have any control on it. PP is getting value of net electricity supplied to grid and the same is considered the monitoring parameter. The billing is raised based on substation meters.
Purpose of the data	Calculation of baseline emissions
Calculation method	Thus, Net electricity supplied to the grid by the project plant in a given month = Export, kWh – Import, kWh
Comments	Data will be archived in paper & electronic form for two years after the end of crediting period or of the last issuance of VERs for this project activity, whichever occurs later.

[8] http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

4.3 Monitoring Plan

The monitoring plan is developed in accordance with the modalities and procedures for CDM project activities and is proposed for grid-connected solar power project being implemented. The monitoring plan, which will be implemented by the project participant describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project participant. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipments for this project activity. The team comprises of the following members:



Responsibility

- Reviewing the monthly and annual generation statistics.
- Evaluating the GHG performance of the project activity.
- Identifying the opportunities for future improvement
- Addressing grievance related to project activity.

- Implementation of corrective appropriate measures in case any discrepancies are identified in the reported parameters.
- Review of monthly report.
- Ensuring calibration of monitoring equipment as and when required.

- Monitoring and reporting the GHG performance related parameters following the guidance provided in the project design document
- Preparation of monthly and annual generation statistics.
- Reporting of any discrepancies identified in the reporting parameters.
- Ensuring calibration of the monitoring equipments as and when required.

Data Measurement

The export and import energy will be measured continuously using above mentioned Main and Check meters located at the substations. Readings of meters shall be taken on monthly basis by authorized officer of SEB in the presence of PP or representative of PP. Based on the Meter Reading Statement to PP, invoices will be raised. These invoices can be used for cross checking the meter readings taken for the respective project activity.

Data collection and archiving

Readings from meters will be collected in the presence of the plant in-charge. Export and Import data would be recorded and stored in logs as well as in electronic form on a daily basis. The records are checked periodically by the Plant Manager and discussed thoroughly with the plant

supervisor. The period of storage of the monitored data will be 2 years after the end of crediting period or till the last issuance of VERs for the project activity whichever occurs later.

Emergency preparedness

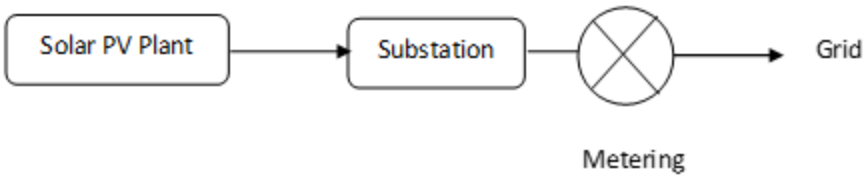
The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

Personnel training

In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff will be trained. The plant helpers will be trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

Metering Arrangement

Line diagram with metering arrangement for the solar project activity is shown below.



The solar plant has their own dedicated metering arrangement at the substation end. The metering arrangement is under control of state electricity board and may change in future.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the approved consolidated Methodology ACM0002 (Version 18.1) para 42:

Baseline emissions include only CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid- connected power plants. The baseline emissions are to be calculated as follows:

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

Where:

BE_y = Baseline emissions in year y (tCO_2/yr)

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

$EF_{grid, CM,y}$ = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO_2/MWh)

Grid Emission Factor

The GEF is fixed ex-ante in the PD as given below:

Parameter	Value
OM	0.9726
BM	0.8723
CM	0.9475

Therefore,

BEy = 1,510,794.81 x 0.9475

= 1,431,477 tCO_2e (Round down values)

5.2 Project Emissions

Not Applicable, since emissions from the project activity is zero as per ACM0002 methodology. Hence, $PE_y = 0$.

5.3 Leakage

Not Applicable, since leakage emissions from the project activity is zero as per ACM0002 methodology. Hence, $LE_y = 0$.

5.4 Net GHG Emission Reductions and Removals

The Formula used to calculate the net emission reduction for the project activity is

$ER_Y = BE_y - PE_y - LE_y$

Where,

ER_y = Emission Reduction in tCO_2/year

BE_y = Baseline emission in tCO_2/year

PE_y = Project emissions in tCO_2/year

LE_y = Leakage Emissions in tCO_2/year

For the project activity during the current monitoring period, as per section 5.1

BEy = 1,431,477 tCO_2e

PEy = 0 tCO_2e

LEy = 0 tCO_2e

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
01-July-2018 to 31-December-2018	574,995	0	0	574,995
01-January-2019 to 30-Septemeber-2019	856,482	0	0	856,482
Total	1,431,477	0	0	1,431,477

Credit Breakdown according to the project investors:

Project Investors	Capacity (MW)	Total VCUs
Aarish Solar Power Private Limited	50	142772
Aashman Energy Private Limited	50	143835
Divyesh Power Private Limited	50	142991
Elena Renewable Energy Private Limited	50	143904
Pratyash Renewable Private Limited	50	142514
SEI Baskara Power Private Limited	50	143138
SEI Enerstar Renewable Energy Private Limited	50	143195
SEI Mihir Energy Private Limited	50	143517
Shreyash Renewable Energy Private Limited	50	142684
Zuvan Energy Private Limited	50	142927
Total		1,431,477

The achieved GHG emission is 14.79% is higher than the estimated value. This is due to the more number of sunshine hours during the monitoring period. The generation of electricity depends upon many other climatic conditions, and not within the control of the project participant. However, the increased PLF is crosschecked with the breaching value of IRR and the result IRR found within limit.

Project Investors	PLF Observed	Subsequent IRR	Breaching Values
Aarish Solar Power Private Limited	27.48%	8.92%	15.10%
Aashman Energy Private Limited	27.68%	9.07%	15.10%
Divyesh Power Private Limited	27.52%	8.95%	15.10%
Elena Renewable Energy Private Limited	27.69%	9.08%	15.10%
Pratyash Renewable Private Limited	27.43%	8.89%	15.10%

SEI Baskara Power Private Limited	27.55%	8.97%	15.10%
SEI Enerstar Renewable Energy Private Limited	27.56%	8.98%	15.10%
SEI Mihir Energy Private Limited	27.62%	9.02%	15.10%
Shreyash Renewable Energy Private Limited	27.46%	8.91%	15.10%
Zuvan Energy Private Limited	27.51%	8.94%	15.10%

APPENDIX 1: CALIBRATION RECORDS

Meter and Calibration Details for 50 MW solar project by Aarish Solar Power Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	5A	5B
Meter Serial No	16196352	16192427
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	05-July-2019	05-July-2019
Due date of Calibration	04-July-2024	04-July-2024

Meter and Calibration Details for 50 MW solar project by Aashman Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	8A	8B
Meter Serial No	16196354	16196342
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23- March - 2017
Date of Subsequent Calibration	30-June-2019	30-June-2019
Due date of Calibration	29-June-2024	29-June-2024

Meter and Calibration Details for 50 MW solar project by Divyesh Power Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	1A	1B
Meter Serial No	16196391	16196395
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	02-July-2019	02-July-2019
Due date of Calibration	01-July-2024	01-July-2024

Meter and Calibration Details for 50 MW solar project by Elena Renewable Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	7A	7B
Meter Serial No	16196404	16196421
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	30-June-2019	30-June-2019
Due date of Calibration	29-June-2024	29-June-2024

Meter and Calibration Details for 50 MW solar project by Pratyash Renewable Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	6A	6B
Meter Serial No	16196349	16196413
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	01-July-2019	01-July-2019
Due date of Calibration	30-June-2024	30-June-2024

Meter and Calibration Details for 50 MW solar project by SEI Baskar Power Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	2A	2B
Meter Serial No	16196359	16196371
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	02-July-2019	02-July-2019
Due date of Calibration	01-July-2024	01-July-2024

Meter and Calibration Details for 50 MW solar project by SEI Enerstar Renewable Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	10A	10B
Meter Serial No	16196365	16196412
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23- March-2017	23- March-2017
Date of Subsequent Calibration	29-June-2019	29-June-2019
Due date of Calibration	28- June-2024	28- June-2024

Meter and Calibration Details for 50 MW solar project by SEI Mihir Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	9A	9B
Meter Serial No	16196350	16196330
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23- March-2017	23- March-2017
Date of Subsequent Calibration	29-June-2019	29-June-2019
Due Date of Calibration	28- June-2024	28- June-2024

Meter and Calibration Details for 50 MW solar project by Shreyash Renewable Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	3A	3B
Meter Serial No	16196386	16196396
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	03-July-2019	03-July-2019
Due Date of Calibration	02-July-2024	02-July-2024

Meter and Calibration Details for 50 MW solar project by Zuvan Energy Private Limited

Meter Details	Main Meter	Main Meter
Feeder Detail	4A	4B
Meter Serial No	16196369	16196374
Meter Make	L & T	L & T
Accuracy Class	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017
Date of Subsequent Calibration	03-July-2019	03-July-2019
Due Date of Calibration	02-July-2024	02-July-2024

The meter and Calibration details at 220KV side at 400KV Substation:

Meter Details	Main Meter	Main Meter	Main Meter	Main Meter
Substation Code	PS1	PS1	PS2	PS2
Feeder	211	213	215	216
Meter Serial No	16196439	16196434	16196452	16196455
Meter Make	L & T	L & T	L & T	L & T
Accuracy Class	0.2s	0.2s	0.2s	0.2s
Date of Calibration	23-March-2017	23-March-2017	23-March-2017	23-March-2017
Date of Subsequent Calibration	05-July-2019	05-July-2019	05-July-2019	05-July-2019
Due date of Calibration	04-July-2024	04-July-2024	04-July-2024	04-July-2024