Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 3MW Solar PV Power Plant by Eaama Estates Private Limited, Vizianagaram

Version 1.1

Date 28/10/2023

First CoU Issuance Period: 6 years, 9 months , 2 days

Monitoring Period: 30/03/2016 to 31/12/2022

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	3MW Solar PV Power Plant by Eaama Estates Private Limited.
UCR Project Registration Number	367
Version	1.1
Completion date of the MR	28/10/2023
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (30/03/2016 to 31/12/2022)
Project participants	M/s Eaama Estates Private Limited
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I. D : "Grid connected renewable electricity generation", version 18.0.
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2016: 4455tCO_2eq
	2017: 5913t CO_2eq
	2018: 5913 t CO_2eq
	2019: 5913 t CO_2eq
	2020: 5913 t CO_2eq
	2021: 5913 t CO_2eq
	2022: 5913 t CO_2eq
Total:	39933 t CO_2eq

SECTION A. Description of project activity

A.1. Purpose and general description of project activity >>

a) Purpose of the project activity and the measures taken for GHG emission reductions >>

The project, Ground Mounted Solar Plant is located in Village Tentuvalasa, Tehsil Badangi, District Vizianagaram, State Andhra Pradesh, Country India.

The project activity is a renewable power generation activity at Eaama Estates, Vizianagaram. The project activity involves commissioning of 3MW Grid Connected Ground Mounted Solar Plant. The solar plant was completed in single phase and put to use on 30/03/2016.

The purpose of the project activity is to utilize the solar energy source for clean electricity generation. The net generated electricity from the project activity will be exported to the grid. The proposed project has been synchronized with the national grid.

The project activity has been designed for electricity generation of about 6570MWh. In the absence of the project activity an equivalent amount of electricity would have been generated from the connected/new power plants in the integrated Indian grid system, which is predominantly based on fossil fuels. On the contrary the operation of solar modules is emission free throughout the lifetime of the project activity. The project activity doesn't involve any GHG emission sources.

b) Brief description of the installed technology and equipment>>

The project activity involves "Solar PV system" as the technology. The system is designed at a capacity of 3MW. The solar modules are Ground mounted.

The solar module is a packaged, connected assembly of solar cells which uses the incident photons from the sun light and converts it into electricity. The solar module generates DC power which is converted to AC power at 400 V with the help of inverters. The output from the Inverters has been connected to 4 no's ACDBs, wherein the electricity generated will be recorded using Multi-Function Meters (MFM) and then connected to the facility's LT panel.

The generated power will be supplied/exported to the national grid through a net meter installed by the Electricity Distribution company i.e. APTRANSCO.

c) Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)>>

The following are the key milestone dates of the project: -

- Duration of crediting period: - 30/03/2016 to 31/12/2022 (6 Years,09 Months and 2 Days)
- CEIG approval date: - 24/03/2016
- Put to use date: -30/03/2016

UCR Project ID or Date of Authorization: Project ID: 367
Start Date of Crediting Period: 30/03/2016
Project Commissioned: 30/03/2016

d) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

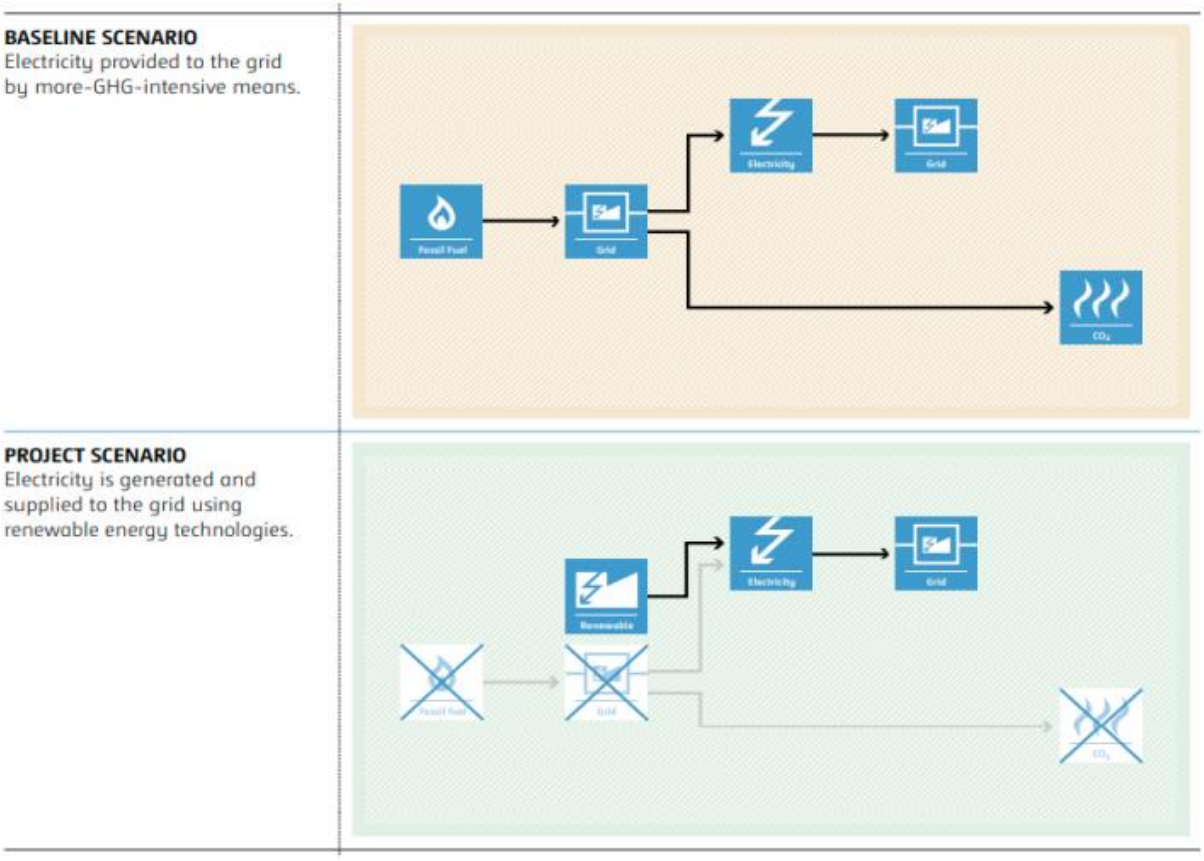
The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	30/03/2016
Carbon credits claimed up to	31/12/2022
Total ERs generated (tCO_{2eq})	28717.92
Leakage	0

e) Baseline Scenario>>

The baseline scenario identified at the PCN stage of the project activity is:

In the absence of the project activity the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid system), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants. Hence baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.



A.2. Location of project activity>>

Country: India
District: Vizianagaram
Village: Tentuvalasa
Tehsil: Badangi
State: Andhra Pradesh
Code: 535578

The project location is situated in village Tentuvalasa of Vizianagaram district in the state of Andhra Pradesh. The nearest railway station to the project site is at Donkinavalasa. The project location can be approached by road with a distance of 1.7 Kms from Donkinavalasa. Nearest Airport is Vishakapatnam Airport

The geographic co-ordinate of the project locations is 18.4726° N and 83.3478° E.

A.3. Parties and project participants >>

Party (Host)	Participants
India	M/s Eaama estates Private Limited, Tentuvalasa Village, Badangi Mandal, Vizianagaram District, Andhra Pradesh, India. 535578 .

A.4. References to methodologies and standardized baselines >>

SECTORAL SCOPE – 01, Energy industries (Renewable/Non-renewable sources)

TYPE I – Renewable Energy Projects

CATEGORY- Grid-connected electricity generation from renewable sources

The applied methodologies – AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18.0)

The project activity has installed capacity of 3MW which is less than 15MW. Hence, it will qualify for a small-scale project activity under Type-1 of the small-scale methodology

A.5. Crediting period of project activity >>

Duration of crediting period: - 30/03/2016 to 31/12/2022 (6 Years,09 Months and 2 Days)

Length of the crediting period corresponding to this monitoring period: 6 Years,09 Months and 2 Days.

A.6. Contact information of responsible persons/entities >>

Contact Person-1 (Project Proponent)

Name of the Person:- EDARA VIDYASAGAR
Contact Details:- 7893496699
Mail ID:- eaamaestates.pl@gmail.com

Contact Person-2 (External Representative)

Name : Kurupati Lokesh
C1, 3rd Floor, Spaces and More Building,
Vittal Rao Nagar, Madhapur,
Hyderabad-500081.
Contact No: +91 81868 79038
E-mail: narendra@zenithenergy.com

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity >>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The project, Grid Connected Ground Mounted Solar Plant is located in Village Tentuvaslasa, Tehsil Badangi,District Vizianagaram,State Andhra Prdaesh,Country India .

The following are the key milestone dates of the project: -

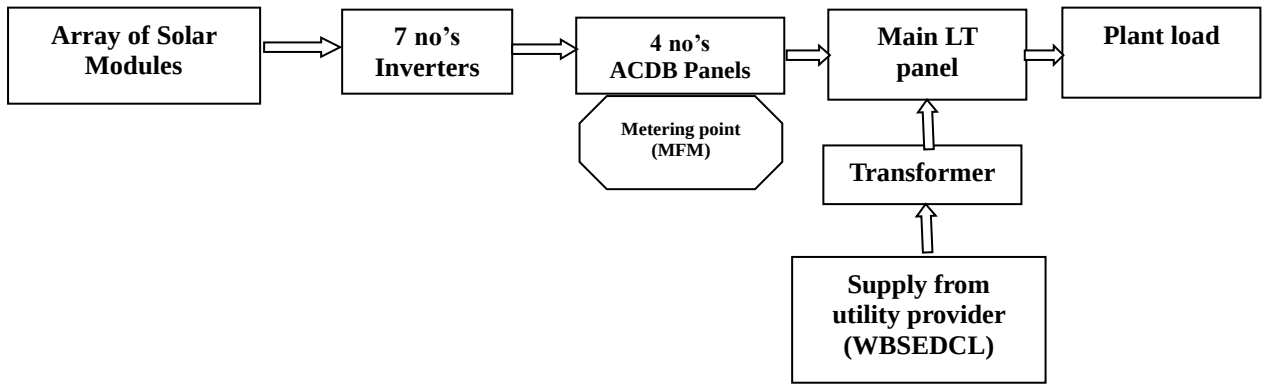
- Duration of crediting period: - 30/03/2016 to 31/12/2022 (6 Year,09 Months and 2 Days)
- CEIG approval date: - 19/03/2016
- Put to use date: - 30/03/2016
- Commissioned Date: - 30/03/2016

b) For the description of the installed technology(ies), technical process and equipment, include diagrams, where appropriate>>

The details of the technologies adopted for the project are as follows:

The project activity involves “Solar PV system” as the technology. The system is designed at a capacity of major equipment 3MW. The solar modules are mounted on the module mounting structures. The solar module is a packaged, connected assembly of solar cells which uses the incident photons from the sun light and converts it into electricity. The solar module generates DC power which is converted to AC power with the help of inverters. The output from the Inverters will be fed to the ACDBs, wherein the electricity generated will be recorded and then connected to the facility’s LT panel.

Typical line diagram: -



Technical details:

<table>
<tr><th>Description</th><th>Qty</th></tr>
<tr><td>Nominal Power</td><td>3MW</td></tr>
<tr><td>Solar Modules</td><td>Make: Renesola Jiangsu Limited
Technology: Poly Crystalline
Rating: 315 Wp
No. of modules: 10480</td></tr>
<tr><td>Inverters</td><td>Type: String inverters
Make: ABB
<table><tr><th>Rating</th><th>Qty</th></tr><tr><td>1000 kW</td><td>3 no’s</td></tr></table></td></tr>
<tr><td>Energy Meters</td><td>Energy meter-1: Main Meter
Sr. No. APX00590
Make: Secure Meters Limited
Model: Premier 300
Class: 0.2s
Meter Calibration Date: 19/04/2022
Calibration validity: 18/04/2023

Energy meter-2: Check meter
Sr. No. APX00591
Make: Secure Meters Limited
Model: Premier 300
Class: 0.2s
Meter Calibration Date: 19/04/2022
Calibration validity: 18/04/2023

Energy meter-3: Standby meter
Sr. No. APX00592
Make: Secure Meters Limited
Model: Premier 300
Class: 0.2s
Meter Calibration Date: 19/04/2022
Calibration validity: 18/04/2023</td></tr>
</table>

The solar module generates DC power which is converted to AC power with the help of inverters. The system was supplied and commissioned by M/s Renesola Jiangsu Limited and has Poly Crystalline type (315 Wp) modules. The installed system has net metering facility to transfer the excess units to grid.

B.2 Do no harm or Impact test of the project activity>>

There was no harm identified from the project and hence no mitigations measures are applicable.

Rational: As per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), it has been declared that solar project activity falls under the "White category". White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts.

There are social, environmental, economic and technological benefits which contribute to sustainable development.

Social benefits:

- The project would help adding more employment opportunities as compared to regular employees, such as during the construction and operation phases of the solar plant.
- Also, the project activity directly contributes to the development of renewable infrastructure in the region which will motivate other fellow industries in the region to adopt solar technology for green power.

Environmental benefits:

- The project activity will generate power using zero emissions solar based power generation facility, which helps to reduce GHG emissions and specific pollutants like Sox, Nox, and SPM associated with the conventional thermal power generation facilities.
- Also, being a renewable resource, use of solar energy to generate electricity contributes to resource conservation.
- It reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion.
- Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

Economic benefits:

- The project is a clean technology investment decided based on carbon revenue support, which signifies flows of clean energy investments into the host country.
- The project activity requires temporary and permanent, skilled and semi-skilled man power at the solar project location; this will create additional employment opportunities in the region.
- The generated electricity will be exported to grid.

B.3. Baseline Emissions>>

The baseline scenario identified at the PCN stage of the project activity is:

The project activity is a new installation of Ground Mounted solar plant of 3MW for Eaama Estates Private Limited and energy will be exported/supplied to the national grid.

The project activity displaces equivalent electricity that would be provided to the grid by more-GHG-intensive means.

In the absence of the project activity the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid system), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants.

B.4. Debundling>>

This Grid Connected Ground Mounted Solar Plant at Eaama Estates Private Limited, project is not a debundled component of a larger project activity.

SECTION C. Application of methodologies and standardized baselines

C.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE – 01, Energy industries (Renewable/Non-renewable sources)

TYPE I – Renewable Energy Projects

CATEGORY- Grid-connected electricity generation from renewable sources

The applied methodologies – AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18.0)

The project activity has installed capacity of 3MW which is less than 15MW. Hence, it will qualify for a small-scale project activity under Type-1 of the small-scale methodology.

C.2. Applicability of methodologies and standardized baselines >>

The project, is a grid connected ground mounted Solar Plant of 3MW capacity. The project activity falls under small scale project activity. Hence, AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18.0) has been applied. The applicability of methodology to the project case is justified below:

Applicability Criterion	**Project Case**
1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as Wheeling .	The project activity is a Renewable Energy Project i.e., Solar PV project (SPV) which will be supplied to national grid, which falls under applicability criteria option 1 The energy generated will be exported to the grid Hence the project activity meets the given applicability criterion as well as satisfies the applicability illustration mentioned in Appendix of AMS-ID Table 1 – Scope of AMS-I.sD version 18.
2. This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); I Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	The option (a) of applicability criteria 2 is applicable as project is a Greenfield plant /unit. Hence the project activity meets the given applicability criterion.sss
3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible **(C)** to apply this methodology) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or	The project is a Solar PV (SPV), hence this criterion is not applicable.

(b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) is increased and the power density as per definitions given in the project emissions section, is greater than 4 W/m2. (I(c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m2	
4. If the new unit has both renewable and nonrenewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The proposed project is 3MW SPV i.e., only component is renewable power project below 15MW, thus the criterion is not applicable to this project activity.
5. Combined heat and power (co-generation) systems are not eligible under this category	The project is SPV project and thus the criterion is not applicable to this project activity.
6. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct1 from the existing units.	The project is a new installation of 3MW SPV plant and is not a capacity addition of renewable energy generation at an existing renewable power generation facility. Hence, this criteria is not applicable.
7. In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The project is a new installation of 3 MW SPV plant and is not a retrofit, rehabilitation or replacement. Hence, this criteria is not applicable
8. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as"AMSI. C.: Thermal energy production with or without electricity" shall be explored.	The project is a new installation of 3 MW SPV plant. Hence, this criterion is not applicable.
9. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not biomass involved, the project is only a SPV project and thus the criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions >>

This project activity was not registered with any other GHG program for carbon credits prior to this monitoring period. Hence this project will not cause any double counting of carbon credits.

C.4. Project boundary, sources and greenhouse gases (GHGs)>>

As per applicable methodology AMS-I.D. Version 18, "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to."

Thus, the project boundary includes the solar PV system and the Indian grid system.

The Project is executed at Village Tentuvalasa, Tehsil Badangi, District Vizianagaram, State Andhra Pradesh, Country India. The project focuses on installation of 3MW Ground Mounted solar power plant which is meant for capacitive use. The excess energy generated from the system is sent to the grid by net metering system. The project helps to reduce the GHG's by reducing consumption of energy from the grid.

	Source	GHG	Included?	Justification/Explanation
Baseline	Grid connected electricity generation	CO_2	Yes	Main emission source
		CH_4	No	Main emission source
		N_2O	No	Main emission source
Project Activity	Greenfield Solar PV Project Activity	CO_2	No	No CO_2 emissions are emitted from the project
		CH_4	No	Project activity does not emit CH_4
		N_2O	No	Project activity does not emit N_2O

C.5. Establishment and description of baseline scenario (UCR Protocol) >>

This section provides details of emission displacement rates/coefficients/factors established by the applicable methodology selected for the project.

As per the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"The baseline scenario is that the 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 into the grid".

The project activity generates green power from solar energy which will be exported to grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. The power produced at grid from the other conventional sources which are predominantly fossil fuel based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission "factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. An emission factor of 0.9 tCO_2/MWh for the 2014- 2020 years, recommended by the UCR as a fairly conservative estimate for Indian projects not previously verified under any GHG program is used for baseline emission calculation. The same grid emission factor of 0.9 tCO_2/MWh has been considered for the entire monitoring period, as a conservative measure.

Net GHG Emission Reductions and Removals

Thus, $Er_y = Be_y – PE_y – Le_y$

Where:

- ERy = Emission reductions in year y (tCO2/y)
- BEy = Baseline Emissions in year y (t CO2/y)
- PEy = Project emissions in year y (tCO2/y)
- LEy = Leakage emissions in year y (tCO2/y)

Baseline Emissions

Baseline emissions include only CO2 emissions from electricity generation in 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:

$BEy = EGPJ,y \times EFgrid,y$

- BEy = Baseline emissions in year y (t CO_2)
- $EGPJ,y$ = 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)
- $EFgrid,y$ = Combined margin CO_2 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)

Project Emissions
As per AMS-I.D. version-18, only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the project activity is a solar power project, project emission for renewable energy plant is nil.

Thus, PEy =0.

Leakage
As per paragraph 22 of AMS-I.D. version-18, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy generating equipment and therefore the leakage from the project activity is considered as zero.

Hence, LEy= 0

The actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Estimated baseline emission reductions (BEy)

= 6570 MWh *0.9 tCO2/MWh
An Emission factor of 0.9 has been selected as per UCR standard

C.6. Prior History>>

The project activity was put to use on 30/3/2016. The crediting period is from 30/03/2016 to 31/12/2022. The project activity has not applied to any other GHG program for generation or issuance of carbon offsets or credits for the said crediting period.

C.7. Monitoring period number and duration>>

First Issuance Period: 6 years, 09 months 2 days – 30/03/2016 to 31/12/2022

C.8. Changes to start date of crediting period >>

There is no change in the start date of crediting period.

C.9. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

Not Applicable.

C.10. Monitoring plan>>

Data and Parameters available at validation (ex-ante values):

Data/Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2 /MWh
Description	Combined margin CO_2 emission factor for grid connected power generation in year y
Source of data	The UCR Standard 0.9 tCO_2/MWh for the 2014- 2020
Value(s) applied	As per recommendation by The UCR Standard for the 2014- 2020 years for Indian projects not previously verified under any GHG program. The same grid emission factor of 0.9 tCO_2/MWh has been considered for the entire monitoring period, as a conservative measure.
Measurement methods and procedures	Yearly
Monitoring frequency	Calculation of baseline emission

Data and Parameters to be monitored (ex-post monitoring values):

Data / Parameter:	$EG_{PJ,y}$
Data unit:	MWh
Description:	Quantity of net electricity generated will be supplied to the grid in year y.
Source of data:	Energy meter-1: Main Meter Sr. No. APX00590 Make: Secure Meters Limited Model: Premier 300 Class: 0.2s Meter Calibration Date: 19/04/2022 Calibration validity: 18/04/2023 Energy meter-2: Check meter Sr. No. APX00591 Make: Secure Meters Limited Model: Premier 300 Class: 0.2s Meter Calibration Date: 19/04/2022

	Calibration validity: 18/04/2023 Energy meter-3: Standby meter Sr. No. APX00592 Make: Secure Meters Limited Model: Premier 300 Class: 0.2s Meter Calibration Date: 19/04/2022 Calibration validity: 18/04/2023
Value(s) applied	Based on actual generation
Measurement methods and procedures	Monitoring equipment: Energy Meters are used for monitoring Archiving Policy: Paper & Electronic Calibration frequency: Once in every year (as per provision of PPA). Difference of staring reading of current month and ending reading of previous month will be considered for arriving at the gross generation from the project activity. The sum of energy generation from the 4 meters will be considered for computation gross generation from the project activity. Cross Checking: Quantity of net electricity supplied to the grid will be cross checked from the monthly bills or invoices.
Measurement Frequency:	Monthly
Purpose of Data	The Data/Parameter is required to calculate the baseline emission.
QA/QC procedures applied:	If the energy meter fails in recording the generation, we will not claim any COUs for that period.

Year 2016

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		MWh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
30-03-2016	01-04-2016	15.3	0	15.3	0.9	13.77	0.00	13.77
01-04-2016	01-05-2016	401.800	1.700	400.100	0.9	360.09	0.00	360.09
01-05-2016	01-06-2016	476.500	1.500	475.000	0.9	427.50	0.00	427.50
01-06-2016	01-07-2016	415.700	1.800	413.900	0.90	372.51	0.00	372.51
01-07-2016	01-08-2016	349.200	2.000	347.200	0.90	312.48	0.00	312.48
01-08-2016	01-09-2016	393.100	1.700	391.400	0.90	352.26	0.00	352.26
01-09-2016	01-10-2016	314.000	2.300	311.700	0.90	280.53	0.00	280.53

01-10-2016	01-11-2016	459.800	2.300	457.500	0.90	411.75	0.00	411.75
01-11-2016	01-12-2106	457.700	2.300	455.400	0.90	409.86	0.00	409.86
01-12-2106	01-01-2017	402.400	2.400	400.000	0.90	360.00	0.00	360.00
		3685.50	**18.00**	**3667.00**		**3300.00**	**0.00**	**3300.00**

Year 2017

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2017	01-02-2017	433.9000	2.4000	431.5000	0.90	388.35	1.94	386.41
01-02-2017	02-03-2017	469.4000	2.2000	467.2000	0.90	420.48	2.10	418.38
02-03-2017	30-03-2017	464.0000	2.2000	461.8000	0.90	415.62	2.08	413.54
30-03-2017	01-04-2017	17.7000	0.1000	17.6000	0.90	15.84	0.08	15.76
01-04-2017	01-05-2017	496.4000	2.3000	494.1000	0.90	444.69	2.22	442.47
01-05-2017	01-06-2017	524.9000	2.1000	522.8000	0.90	470.52	2.35	468.17
01-06-2017	01-07-2017	297.4000	2.1000	295.3000	0.90	265.77	1.33	264.44
01-07-2017	01-08-2017	327.1000	2.2000	324.9000	0.90	292.41	1.46	290.95
01-08-2017	01-09-2017	382.0000	2.2000	379.8000	0.90	341.82	1.71	340.11
01-09-2017	01-10-2017	414.3000	2.1000	412.2000	0.90	370.98	1.85	369.13
01-10-2017	01-11-2017	435.8000	2.3000	433.5000	0.90	390.15	1.95	388.20
01-11-2017	01-12-2017	404.4000	2.1000	402.3000	0.90	362.07	1.81	360.26
01-12-2017	01-01-2018	432.4000	2.5000	429.9000	0.90	386.91	1.93	384.98
		5099.70	**26.80**	**5072.00**		**4565.00**	**23.00**	**4542.00**

Year 2018

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2018	01-02-2018	470.2000	2.3000	467.9000	0.90	421.11	2.11	419.00
01-02-2018	01-03-2018	463.2000	2.1000	461.1000	0.90	414.99	2.07	412.92
01-03-2018	30-03-2018	422.9000	2.1000	420.8000	0.90	378.72	1.89	376.83
30-03-2018	01-04-2018	9.1000	0.1000	9.0000	0.90	8.10	0.04	8.06

01-04-2018	01-05-2018	476.7000	2.2000	474.5000	0.90	427.05	2.14	424.91
01-05-2018	01-06-2018	465.7000	2.0000	463.7000	0.90	417.33	2.09	415.24
01-06-2018	01-07-2018	374.2000	2.0000	372.2000	0.90	334.98	1.67	333.31
01-07-2018	01-08-2018	294.1000	2.3000	291.8000	0.90	262.62	1.31	261.31
01-08-2018	01-09-2018	305.1000	2.3000	302.8000	0.90	272.52	1.36	271.16
01-09-2018	01-10-2018	446.3000	2.2000	444.1000	0.90	399.69	2.00	397.69
01-10-2018	01-11-2018	472.0000	2.2000	469.8000	0.90	422.82	2.11	420.71
01-11-2018	01-12-2018	439.2000	1.6000	437.6000	0.90	393.84	1.97	391.87
01-12-2018	01-01-2019	344.2000	2.7000	341.5000	0.90	307.35	1.54	305.81
		4982.90	**26.10**	**4956.00**		**4461.00**	**23.00**	**4438.00**

Year 2019

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2019	01-02-2019	417.3000	2.5000	414.8000	0.90	373.32	1.87	371.45
01-02-2019	01-03-2019	443.3000	2.2000	441.1000	0.90	396.99	1.98	395.01
01-03-2019	30.03.2019	478.7000	2.4000	476.3000	0.90	428.67	2.14	426.53
30.03.2019	01-04-2019	19.0000	0.1000	18.9000	0.90	17.01	0.09	16.92
01-04-2019	01-05-2019	493.4000	2.4000	491.0000	0.90	441.90	2.21	439.69
01-05-2019	01-06-2019	439.9000	2.3000	437.6000	0.90	393.84	1.97	391.87
01-06-2019	01-07-2019	397.6000	2.3000	395.3000	0.90	355.77	1.78	353.99
01-07-2019	01-08-2019	341.0000	2.5000	338.5000	0.90	304.65	1.52	303.13
01-08-2019	01-09-2019	332.3000	2.4000	329.9000	0.90	296.91	1.48	295.43
01-09-2019	01-10-2019	352.1000	2.4000	349.7000	0.90	314.73	1.57	313.16
01-10-2019	01-11-2019	292.6000	2.2000	290.4000	0.90	261.36	1.31	260.05
01-11-2019	01-12-2019	201.0000	2.0000	199.0000	0.90	179.10	0.90	178.20
01-12-2019	01-01-2020	327.7000	3.0000	324.7000	0.90	292.23	1.46	290.77
		4535.90	**28.70**	**4507.00**		**4056.00**	**21.00**	**4035.00**

Year 2020

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2020	01-02-2020	385.8000	2.6000	383.2000	0.90	344.88	1.72	343.16
01-02-2020	01-03-2020	417.7000	2.4000	415.3000	0.90	373.77	1.87	371.90
01-03-2020	30-03-2020	469.5000	2.2000	467.3000	0.90	420.57	2.10	418.47
30-03-2020	31-03-2020	17.2000	0.1000	17.1000	0.90	15.39	0.08	15.31
31-03-2020	01-04-2020	29.4000	0.1000	29.3000	0.90	26.37	0.13	26.24
01-04-2020	01-05-2020	506.2000	2.1000	504.1000	0.90	453.69	2.27	451.42
01-05-2020	01-06-2020	508.7000	2.1000	506.6000	0.90	455.94	2.28	453.66
01-06-2020	01-07-2020	381.2000	2.1000	379.1000	0.90	341.19	1.71	339.48
01-07-2020	01-08-2020	429.6000	2.4000	427.2000	0.90	384.48	1.92	382.56
01-08-2020	01-09-2020	343.6000	2.4000	341.2000	0.90	307.08	1.54	305.54
01-09-2020	01-10-2020	395.3000	2.4000	392.9000	0.90	353.61	1.77	351.84

01-10-2020	01-11-2020	355.2000	2.6000	352.6000	0.90	317.34	1.59	315.75
01-11-2020	01-12-2020	377.9000	2.4000	375.5000	0.90	337.95	1.69	336.26
01-12-2020	01-01-2021	425.9000	2.4000	423.5000	0.90	381.15	1.91	379.24
		5043.20	**28.30**	**5014.00**		**4513.00**	**23.00**	**4490.00**

Year 2021

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2021	01-02-2021	366.7000	2.6000	364.1000	0.90	327.69	1.64	326.05
01-02-2021	01-03-2021	435.9000	2.6000	433.3000	0.90	389.97	1.95	388.02
01-03-2021	30-03-2021	415.6000	1.4000	414.2000	0.90	372.78	1.86	370.92
30-03-2021	31-03-2021	15.1000	0.0000	15.1000	0.90	13.59	0.07	13.52
31-03-2021	01-04-2021	6.9000	0.1000	6.8000	0.90	6.12	0.03	6.09
01-04-2021	01-05-2021	431.9000	1.8000	430.1000	0.90	387.09	1.94	385.15
01-05-2021	01-06-2021	462.7000	2.0000	460.7000	0.90	414.63	2.07	412.56
01-06-2021	01-07-2021	386.1000	1.6000	384.5000	0.90	346.05	1.73	344.32
01-07-2021	01-08-2021	329.3000	2.1000	327.2000	0.90	294.48	1.47	293.01
01-08-2021	01-09-2021	364.8000	1.8000	363.0000	0.90	326.70	1.63	325.07
01-09-2021	01-10-2021	330.8000	1.0000	329.8000	0.90	296.82	1.48	295.34
01-10-2021	01-11-2021	335.9000	1.4000	334.5000	0.90	301.05	1.51	299.54
01-11-2021	01-12-2021	268.7000	1.1000	267.6000	0.90	240.84	1.20	239.64
01-12-2021	01-01-2022	309.8000	1.1000	308.7000	0.90	277.83	1.39	276.44
		4460.20	**20.60**	**4439.00**		**3995.00**	**20.00**	**3975.00**

Year 2022

From	To	Export	Import	Net electricity Generation	Recommended Emission factor	Total CoUs generated	Emissions due to delay calibration	Net Emission Reductions
		Mwh	MWh	MWh	tCO2/MWh	tCO2	tCO2	tCO2
01-01-2022	01-02-2022	400.5000	1.2000	399.3000	0.90	359.37	1.80	357.57
01-02-2022	01-03-2022	416.7000	1.0000	415.7000	0.90	374.13	1.87	372.26
01-03-2022	30-03-2022	438.8000	1.1000	437.7000	0.90	393.93	1.97	391.96
30-03-2022	31-03-2022	13.0000	0.1000	12.9000	0.90	11.61	0.06	11.55
31-03-2022	01-04-2022	6.3000	0.0000	6.3000	0.90	5.67	0.03	5.64
04-01-2022	19-04-2022	236.8000	1.0000	235.8000	0.90	212.22	0.00	212.22
19-04-2022	01-05-2022	161.4000	0.5000	160.9000	0.90	144.81	0.00	144.81
01-05-2022	01-06-2022	470.8000	0.9000	469.9000	0.90	422.91	0.00	422.91
01-06-2022	01-07-2022	364.5000	1.0000	363.5000	0.90	327.15	0.00	327.15
01-07-2022	01-08-2022	324.2000	0.9000	323.3000	0.90	290.97	0.00	290.97
01-08-2022	01-09-2022	351.7000	1.0000	350.7000	0.90	315.63	0.00	315.63
01-09-2022	01-10-2022	323.9000	0.9000	323.0000	0.90	290.70	0.00	290.70
01-10-2022	01-11-2022	317.2000	1.0000	316.2000	0.90	284.58	0.00	284.58
01-11-2022	01-12-2022	245.1000	1.0000	244.1000	0.90	219.69	0.00	219.69
01-12-2022	31-12-2022	320.4625	0.9688	319.4938	0.90	287.54	0.00	287.54
		4391.36	**12.57**	**4378.00**		**3940.00**	**6.00**	**3934.00**