BUNDLED SOLAR POWER PROJECT BY VECTOR GREEN ENERGY PRIVATE LIMITED

Project title	Bundled Solar Power Project by Vector Green Energy Private Limited
Project ID	1770
Monitoring period	01-March-2025 to 31-March-2026
Original date of issue	03-August-2026
Most recent date of issue	03-August-2026
Version	03
VCS Standard Version	4.7
Prepared by	Shivanjali Anubhuti Mishra Sembcorp Green Infra Private Ltd.

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PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The main purpose of this project is to generate clean form of electricity through renewable solar energy source. The project is a bundled project activity which involved installation of 105 MW solar project in different states of India through SPVs.

Over the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHGs) estimated to be approximately 163,888 tCO_{2e} per year, thereon displacing 169,781 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by fossil fuel-based power plant.

The details of the SPVs for the project and their location of installation are mentioned in the table below:

Name of SPVs	Capacity in MW	Date of Commissioning	Connection with Grid	State	Usage
Winsol Solar Fields(Polepally) Pvt. Ltd.	15 MW	01-July-2016	Indian Grid	Telangana	Sale to State Discom
	50 MW	31-December-2016	Indian Grid	Telangana	Sale to State Discom
Hindupur Solar Park Pvt. Ltd.	40 MW	28-June-2016	Indian Grid	Andhra Pradesh	Sale to State Discom

The total GHG emission reductions achieved in this monitoring period:

During the current monitoring period from 01-March-2025 to 31-March-2026 (first and last date included), the project activity supplied 199,248 MWh and thus contributing to the GHG reductions of 166,985 tCO_{2e}.

1.2 Audit History

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Audit type	Period	Program	Validation/verification body name	Number of years
Joint Validation and Verification	28-June-2016 to 22-May-2018	VCS Program	LGAI Technological Center, S.A. (Applus+Certification)	1 year 11 months

Verification	23-May-2018 to 22- December-2019	VCS Program	LGAI Technological Center, S.A. (Applus+Certification)	1 year 7 months
Verification	23-December-2019 to 01-April-2021	VCS Program	Earthood Services Private Limited	1 year 3 months
Verification	02-April-2021 to 31-October 2022	VCS Program	VKU Certification Pvt. Ltd.	1 year 7 months
Verification	01-November-2022 to 30-April-2024	VCS Program	LGAI Technological Center, S.A. (Applus+Certification)	1 years and 6 months
Verification	01-May-2024 to 28-February-2025	VCS Program	Carbon Check (India) Private Limited	10 months
Verification	01-March-2025 to 31-March-2026	VCS Program	Carbon Check (India) Private Limited	1 year
Total	28-June-2016 to 31-March-2026	VCS Program		9 years 8 months

1.3 Sectoral Scope and Project Type

Sectoral scope[1]	01-Energy Industries (Renewable/non-renewable)
Project activity type	Renewable energy projects

The project activity is not a grouped project.

Sectoral scope	Not applicable as it is not a AFOLU project.
AFOLU project category[2]	Not applicable as it is not a AFOLU project.
Project activity type	Not applicable as it is not a AFOLU project.

1.4 Project Proponent

[1] *Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes*

[2] *See Appendix 1 of the* VCS Standard

Organization name	Winsol Solar Fields (Polepally) Pvt. Ltd.
Contact person	Ms. Shivanjali Anubhuti Mishra
Title	Assistant Manager-Carbon Team
Address	Office No. 504/2, 5th Floor, White House Block I, 6-3-1192/1/1, Kundanbagh, Begumpet, Hyderabad Telengana-500016 India
Telephone	
Email	Shivanjali.mishra@sembcorp.com

Organization name	Hindupur Solar Park Pvt. Ltd.
Contact person	Ms. Shivanjali Anubhuti Mishra
Title	Assistant Manager-Carbon Team
Address	Office No. 504/2, 5th Floor, White House Block I, 6-3-1192/1/1, Kundanbagh, Begumpet, Hyderabad Telengana-500016 India
Telephone	
Email	Shivanjali.mishra@sembcorp.com

1.5 Other Entities Involved in the Project

There are no other entities involved in the project. Hence, this section is not applicable.

Organization name	Not Applicable
Role in the project	Not Applicable
Contact person	Not Applicable
Title	Not Applicable
Address	Not Applicable
Telephone	Not Applicable
Email	Not Applicable

1.6 Project Start Date

Project start date	28-June-2016
Justification	The project start date is the date of commissioning of 40 MW Hindupur Solar Park Pvt. Ltd.

1.7 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☐Ten years, ☒ Other (The crediting period is for 10 years and it can be renewed 2 times. This is as per the registered PD, section 1.6.))
Start and end date of first or fixed crediting period	28-June-2016 to 27-June-2026

1.8 Project Location

The project is located in the State of Andhra Pradesh, India.

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

Name of SPVs	Capacity (MW)	State	Village	Mandal	District	Latitude(N)	Longitude(E)
Winsol Solar Fields(Polepally) Pvt. Ltd.	15 MW	Telangana	Karoor	Nawabpet	Mahabubnagar	16°51’49.9”	78°05’33.6”
	50 MW	Telangana	Indur	Peddumal	Vikarabad	17°20’41.4”	77°36’56.6”
Hindupur Solar Park Pvt. Ltd.	40 MW	Andhra Pradesh	Nelapalle	Peddapanjani	Chittor	13°19’31.90”	78°40’10.75”

The project locations have been shown in the map below:

TELANGANA
DISTRICT MAP
MAHARASHTRA
CHHATTISGARH
KARNATAKA
ANDHRA PRADESH
ADILABAD
KUMURAM BHEEM
NIRMAL
MANCHERIAL
JAGTIAL
NIZAMABAD
JAYASHANKAR BHOOPALPALLY
RAJANNA SIRCILLA
KAMAREDDY
KARIMNAGAR
MULUG
HANAMKONDA
SIDDIPET
MEDAK
SANGAREDDY
WARANGAL
BHADRADRI KOTHAGUDEM
MEDCHAL-MALKAJGIRI
MAHABUBABAD
HYDERABAD
YADADRI BHUVANAGIRI
VIKARABAD
KHAMMAM
RANGAREDDY
SURYAPET
NALGONDA
NARAYANPET
MAHBUBNAGAR
NAGARKURNOOL
WANAPARTHY
JOGULAMBA GADWAL
LEGEND
State/UT Boundary
District Boundary
State/UT Capital
District Headquarter
Map not to Scale
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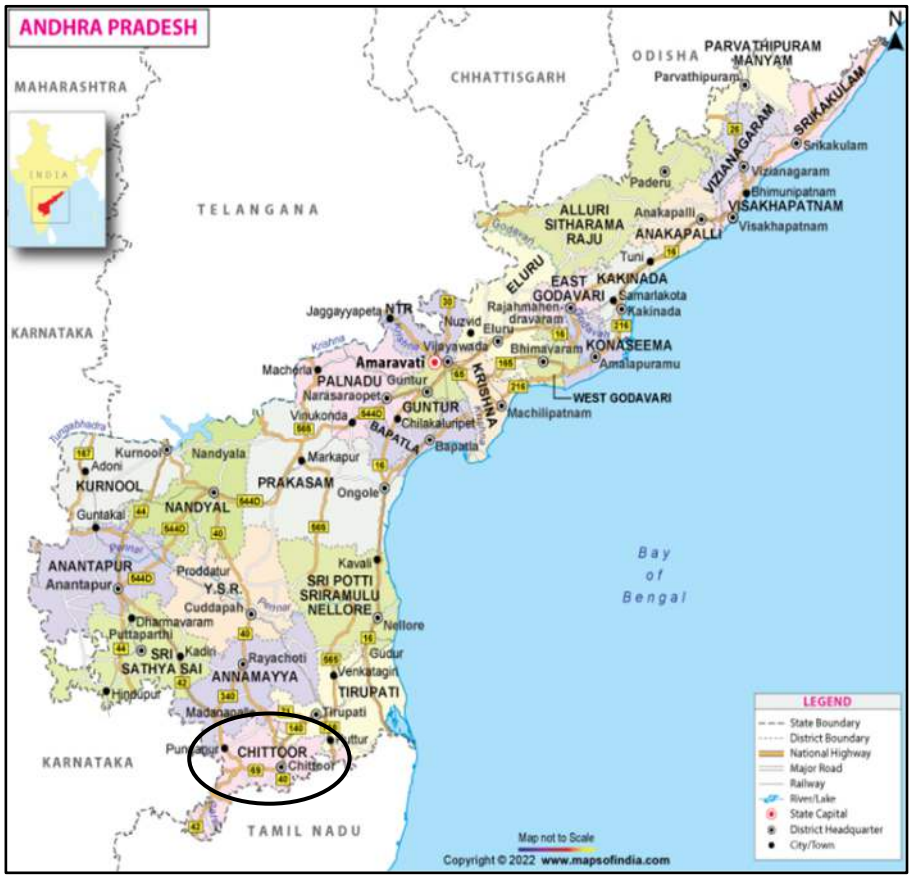
ANDHRA PRADESH
MAHARASHTRA
CHHATTISGARH
ODISHA
TELANGANA
KARNATAKA
TAMIL NADU
PARVATHIPURAM MANYAM
SRIKAKULAM
VIZIANAGARAM
VISAKHAPATNAM
ALLURI SITHARAMA RAJU
ANAKAPALLI
ELURU
EAST GODAVARI
KAKINADA
KONASEEMA
WEST GODAVARI
KRISHNA
Amaravati
PALNADU
GUNTUR
BAPATLA
PRAKASAM
NANDYAL
KURNOOL
ANANTAPUR
Y.S.R.
SRI POTTI SRIRAMULU NELLORE
SRI SATHYA SAI
ANNAMAYYA
TIRUPATI
CHITTOOR
Bay of Bengal
LEGEND
State Boundary
District Boundary
National Highway
Major Road
Railway
River/Lake
State Capital
District Headquarter
City/Town
Map not to Scale
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1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	ACM0002	Grid-connected electricity generation from renewable sources	18.1
Tool	07	Tool to calculate the emission factor for an electricity system[3]	06.0
Tool	01	Tool for the demonstration and assessment of additionality[4]	07.0.0

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

[3] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v6.pdf

[4] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through the Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☐ No

If yes to all:
Provide evidence of the public statement. Evidence must be provided in this section or in an appendix.

1.12 Sustainable Development Contributions

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. The project is a bundled project activity which involves installation of 105 MW solar project in different states of India. The solar project has been developed by Winsol Solar Fields (Polepally) PVt. Ltd & Hindupur Solar Park Pvt. Ltd.

Over the 10 years of the crediting period, the project replaces anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 163,888 tCO_{2e} per year, thereon displacing 169,781 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 power plants.

In a nutshell, the various contributions by the Project Proponent towards the SDGs have been given below:

1. For SDG -7 Affordable and Clean Energy: Since the project activity is a solar power project, it generates clean energy. The project activity is a new facility (Greenfield) and the electricity generated by the project is exported to the Indian electricity grid. The project displaces an equivalent amount of electricity which would have been otherwise been generated by fossil fuel dominant electricity grid.

   During the current monitoring period 01-March-2025 to 31-March-2026 (inclusive of both dates) 199,248 MWh electricity has supplied to Indian grid.

2. For SDG -13 Climate Action: The main purpose of this project is to generate a clean form of electricity through renewable solar energy sources. The project activity involves installation of 15 MW solar project by Winsol Solar Fields (Polepally) Pvt. Ltd. At Mahabunagar district, Telengana, India, 50 MW solar project by WInsol Solar Fields (Polepally) Pvt. Ltd. At Vikarabad district, Telengana, India and 40 MW solar power project by HIndupur Solar Park Pvt. Ltd. At Chittoor district, Andhra Pradesh, India.

   The project supplies clean electricity from the solar power plants to the Indian Grid, hence displacing the electricity generated from grid connected fossil fuel power plants and thereby avoiding the equivalent carbon dioxide which is a greenhouse gas.

   By supplying 199,248 MWh clean electricity to Indian grid, the project avoided release of 166,985 tCO_{2e} into the atmosphere during the current monitoring period: 01-March-2025 to 31-March-2026 (inclusive of both dates).

3. SDG 8 -Employment and decent work: The implementation of the project activity has led to increase in the employment and skill upliftment in the surrounding areas. The current monitoring period has employed 73 people for the project activity and 106 trainings were conducted.

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	7.2	Amount of electricity generated (Self-Defined Indicator)	Implemented activities to increase	In this monitoring period, this project has supplied 199,248 MWh clean electricity by using solar energy resources	The clean energy generation from the project activity over its entire lifetime is 1,818,362 MWh.
2)	8.0	Number of individuals employed and trained. (Self-Defined Indicator)	Implemented activities to increase	73 people are employed for the project and 106 trainings were provided during the current monitoring period.	Currently 72 people are working in the project activity. Total number of trainings provided up to current project activity is 106.
3	13.2.2	Total of greenhouse gas emissions per year	Implemented activities to increase	By supplying 199,248 MWh clean electricity to Indian grid, the project avoided release of 166,985 tCO_2 in to the atmosphere during the reporting period.	Prevented the release of 1,729,909 tCO_{2e} into the atmosphere over its entire lifetime. Electricity generation form clean energy (Solar energy) resources leads to low greenhouse gases emission along with supplying affordable, clean electricity.

1.13 Commercially Sensitive Information

There is no commercial sensitive information related the project activity. All information is provided in the public version of the project documents.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification	The main stakeholders of this project identified by the project participant are the local villagers who are the main population of this area. Other stakeholders are the unskilled labour, operations and maintenance team of the project activity.
Legal or customary tenure/access rights	The land on which the Solar Panels are installed is owned by the Project Participant..
Stakeholder diversity and changes over time	• The project owner has conducted and stakeholder meeting during the start of registration process of this project under the VCS mechanism. In this stakeholder meeting, diverse stakeholders such as local villagers (villages nearby the project site), state utility officials, NGOs were invited. The stakeholders comprises of State utility which includes transmission and distribution companies which have offices at local (block level) and as well as State Capital. The project owner has explained the various benefits and advantages of this project including the economic impact on the local area. Over the period of the year, the nature of the stakeholders has not changed.
Expected changes in well-being	Over the course of the project implementation, there has been considerable and positive impact on the livelihood of the local people. The project activity has generated

	employment to the local people, development of new skills for the locals by providing trainings and exposing to various awareness programs.
Location of stakeholders	The main stakeholders of this project are: • State utility which includes transmission and distribution companies which have offices at local (block level) and as well as State Capital. Villagers/local citizens- they are located near the project area. The project has positive impact on the local people and it has generated employment (temporary/permanent) opportunities for them.
Location of resources	The land on which the Solar Panels are installed belongs to the project owner. The locations of all Solar Panels are provided in Section 1.8.

2.1.2 Stakeholder Consultation and Ongoing Communication

Ongoing consultation	For on-going consultation, the project proponent has kept grievance register in plant site office and sought comments/grievances from the local stakeholders. The representative of PP addresses the grievances if any to the stakeholders and communicates them on regular basis. PP has also kept provision for submitting comments/grievances from local stakeholder through direct emails. Below are the details: • Company Website: www.sembcorpindia.com—Green Infra Wind Energy Limited • Email: sgil.grievance@sembcorp.com During the current monitoring period, no negative comments were received from the local stakeholders.
Date(s) of stakeholder consultation	Local stakeholder consultation was conducted during the registration of the project. The Project Proponent had conducted local stakeholder's consultation at three different project sites.

Project Location	Capacity	Date of meeting	Mode of Invitation
Project site, Telengana by Winsol Solar Fields (Polepally) Pvt. Ltd.	15 MW	12/01/2016	Public notice, email
Project site, Telengana by Winsol Solar Fields (Polepally) Pvt. Ltd.	50 MW	13/01/2016	Public notice, email
Project site, Andhra Pradesh by HIndupur Solar Park Pvt. Ltd.	40 MW	14/01/2016	Public notice, email

Communication of monitored results	The main outcomes and benefits of the project activity like the total power generated, the employment opportunities and economic development of the villages near the project site was explained to all the stakeholders.
Consultation records	The consultation with stakeholders was documented in the forms of Minutes of Meeting consisting outcome of the consultation process and the same has been shared with the stakeholders.
Stakeholder input	During the stakeholder's consultation process, the below inputs were received for the project: 1. Does the project provide employment opportunities or economic development of the area? PP response: Yes, the project will provide economic development of the area and employment opportunities to the local people.

	2. How the project activity will benefit the villages around the project site and their residents? PP response: The project activity will benefit the villagers by providing employment opportunities to local or nearby people like module cleaning, hiring of vehicles and various social activities shall help to uplift the standard of living.

2.1.3 Free, Prior, and Informed Consent

Consent	The project area legally belongs to the Project Proponent and no conflicts have arised related to the rights of the project, the project location or any other disagreements with any stakeholders.
Outcome of FPIC	The project site belongs to the Project Proponent and it has a legal document of its rights over the Land. In the process, there has no displacement or relocation of the local villages. Since the start of the project activity there has been many positive economic impacts which has greatly contributed to the upliftment of the region.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
No grievances received during the monitoring period.	There is a grievance register which is kept at the project site. Any stakeholder who has comments/complaints can contact as per the details mentioned. The Project representative would address the complaints on immediate basis.

2.1.5 Public Comments

Summary of comments received	Actions taken

No negative comments have been received	Since the commissioning, there has been no change in the project design and therefore any updates were not necessary.

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

The project owner has a robust management structure to manage the financial, operational, and environmental risks. It has a team of qualified engineers, financial analysts, community engagement professionals and health, safety, and environmental (HSE) risk management professionals to manage the operational, financial, social and environmental risks.

The project proponent has vast experience in managing renewable energy projects across the globe and has developed a Standard Operational Procedure (SoP) for Identifying the environmental hazards/risks related to health, safety, and operations and managing all risks adequately at the project site as well as at the corporate office. for monitoring all relevant risks at the project site as well as at the corporate office. The project owner has also developed a training schedule for the site managers to manage the operational, and environmental risks.

The project owner has a robust CSR team which engage with the local communities including women, youths, and marginalized people located in the project area right from the project conceptualization stage to execution and operational stage.

2.2.2 Risk assessment

This section and its subsequent sub-sections are not applicable.[5]

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	Visual and Aesthetics impacts	The layout for the solar modules has been finalized based on a sitting exercise which has accounted for visual impacts. All the solar modules have uniform visual characteristics such as size and the design of the module.

[5]According to April 2024 Overview of VCS Program Updates and Effective dates, this section is not applicable yet. It is effective for all project requests submitted to Verra Registry on or after 01 January 2025.

Risks to stakeholder participation	No risk identified	No agricultural activities are undertaken near the project site, The land is purchased through willing seller and willing buyer arrangement and no negative impacts on livelihood could be identified which may pose risk to stakeholders' participation.
Working conditions	Safety of employees at project site	PP has a health and safety policy, and procedure manual in place to ensure favorable working condition.
Safety of women and girls	No risk identified	The project is a solar power project and its day-to-day operations does not involve any interactions with the local community. Hence, there are no safety related concerns for women and girls.
Safety of minority and marginalized groups, including children	No risk identified	There are no marginalized group or minorities present in the local community. No vulnerable communities were identified.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Water Resources & Quality (excessive use of water resources in the project vicinity leading to their depletion)	Water required for cleaning is sourced from authorized tankers suppliers during the dry months in order to eliminate dust and insect build up in solar modules. No wastewater generation is envisaged from the process

2.3 Respect for Human Rights and Equity

This section and its subsequent sub-sections are not applicable.[6]

[6]According to April 2024 Overview of VCS Program Updates and Effective dates, this section is not applicable yet. It is effective for all project requests submitted to Verra Registry on or after 01 January 2025.

2.3.1 Labor and Work

	Risks identified[7]	Mitigation or preventative measure(s) taken
Discrimination	Discrimination on the basis of individual's race, gender, age, disability, ethnicity or cultural affiliation, sexual orientation, belief, educational background, or any other basis.	PP has code of conduct policy in place to prevent discrimination against anyone.
Sexual harassment	Unwelcome acts or behavior (whether directly or by implication)	PP has a prevention of sexual harassment policy in place which is applicable to both permanent and contractual employees.
Gender equity in labor and work	Biasness in hiring, promotions or terminations	PP has fair employment practice policy in place to prevent any such partiality.
Forced labor	No risk identified	PP complies with the core labour standards for the ADB financed portion of the Project by engaging those contractors and other providers of goods and services who do not employ forced labour
Child labor	No risk identified	PP complies with the core labour standards for the ADB financed portion of the Project by engaging those contractors and other providers of goods and services who do not employ child labour
Human trafficking	No risk identified	The PP works with ethical suppliers as per code of conduct policy and no such scenario is envisaged for the project activity.

2.3.2 Human Rights

[7] The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

It is not applicable as mentioned above.

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The land required for the project comprises of entirely private land and is purchased on willing seller- willing buyer basis and direct negotiations with the land owners. There are no resettlement and rehabilitation or involuntary resettlement issues related to the project; and no specific / vulnerable group of community is likely to be affected by the project., hence there are no risks to human rights violation identified.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	The project does not affect the indigenous people and their cultural heritage as Indigenous communities like tribes, ethnic minorities, aboriginals etc. are not present in the area

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	This project does not infringe with property rights and resources. The land required for the project comprises of entirely private land and is purchased on willing seller- willing buyer basis and direct negotiations with the land owners. Hence, there is no need to implement any measures to protect and preserve the property rights of stakeholders, IPs, LCs, and customary rights holders.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	Not Applicable
Benefit sharing during the monitoring period	Not Applicable

2.4 Ecosystem Health

This section and subsequent sub-sections are not applicable.[8]

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	This project activity does not involve any activity which may negatively impact biodiversity and ecosystem. The locations identified for the solar modules do not comprise of any trees or shrubs in the immediate vicinity.
Soil degradation and soil erosion	Dispersion of soil	Temporary paved areas are constructed to be used while refueling the machineries, in case of any accidental spill the soil will be cut and stored securely for disposal with hazardous waste.
Water consumption and stress	Contamination of pond, domestic water run off	Portable toilets are provided with septic tank followed by soak pit. Temporary paved areas are used while refueling the machineries Storage of oil is undertaken on paved impervious surface and secondary containment shall be provided for fuel storage tanks;

[8] According to April 2024 Overview of VCS Program Updates and Effective dates, this section is not applicable yet. It is effective for all project requests submitted to Verra Registry on or after 01 January 2025.

2.4.1 Rare, Threatened, and Endangered species

Species or habitat	Not Applicable
Areas needed for habitat connectivity	Not Applicable

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No Risk Identified	The project activity does not involve any activities that negatively impact habitats of rare, threatened and endangered species. The locations identified for the solar modules do not affect or compromise any such habitats within or around the project area.
Areas for habitat connectivity	No Risk Identified	The project activity does not negatively impact areas important for habitat connectivity, and the solar modules installed at the project site do not affect or compromise habitat connectivity in the surrounding area.

2.4.2 Introduction of species

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Not Applicable	Not Applicable	Not Applicable	Not Applicable

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
Not Applicable	Not Applicable

	Risks identified	Mitigation or preventative measure(s) taken
Invasive species	Not applicable	Not applicable

2.4.3 Ecosystem conversion

This section and subsequent sub-sections are not applicable.[9]

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No Risk Identified	The project activity does not involve any activities that result in ecosystem conversion or degradation. The solar modules installed at the project site do not affect or result in the conversion of any ecosystems in the surrounding area.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity involves the installation of Solar PV project. The total installed capacity of the project is 105 MW of solar PV plant located at different states in India. The project is promoted by Vector Green Energy Private Limited.

The project activity is a new facility (Greenfield) and the electricity generated by the project is being exported to the Indian electricity grid. The project therefore displaces 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.

[9] According to April 2024 Overview of VCS Program Updates and Effective dates, this section is not applicable yet. It is effective for all project requests submitted to Verra Registry on or after 01 January 2025.

In the Pre-Project scenario to 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.

During the current monitoring period from 01-March-2025 to 31-March-2026 (first and last date included) the project activity has supplied 199,248 MWh of net electricity and thus contributing to GHG reductions of 166,985 tCO_{2e}.

The technical details of the Solar PV project are described in below table[10]:

The project activity aims to harness solar energy through installation of solar PV project with total installed capacity of 105 MW. The technical specification of each SPV mentioned during the validation of project activity.

The technical specification of 40 (4 x 10MW) plant recommendation with grid on 28-June-2016 by Hindupur Solar Park Pvt. Ltd. Are as follows:

Sl.No.	Technical details of the equipment	Description
1.	Make of modules installed	First Solar series4V2
2.	No. of the modules installed	Wp capacity – 110 & 112.5 Wp Total No. of modules – 432300 Nos.
3.	Tilt angle	11 degrees
4.	Make & Model of Invertor	Make – ABB Model -PVS-800-57-1000kW-C
5.	Number of inverters	40 Nos.
6	Make & Number of Transformers & capacity	Voltamp transformer Ltd. -2000 kVA-20 Nos.

The technical specification of 15 MW plant interconnection with grid on 01-July-2016 by Winsol Solar Fields (Polepally) Pvt. Ltd. Are as follows:

Sl. No.	Technical details of the equipment	Description
1	Make of modules installed	First Solar series4V2
2	No. of the modules installed	Wp capacity -100, 102.5, 107.5 Wp. Total No. of modules – 172788 Nos.

[10] Technical specification are mentioned as per Joint VCS PD & MR(Version 02 dated 16-July-2018)

3	Tilt angle	13 degrees
4	Make & Model of Invertor	Make-ABB Model – PVS-800-57-1000 kW-C
5	Number of inverters	15 Nos.
6	Make & Number of Transformers & capacity	Voltamp- 2000kVA-7Nos. Voltamp – 1000 kVA -1 No. Schneider – 25/30 MVA – 1 No.

The technical specification of 50 MW plant interconnection with grid on 31- December-2016 by Winsol Solar Fields (Polepally) Pvt. Ltd are as follows:

Sl. No.	Technical details of the equipment	Description
1	Make of modules installed	First Solar series4V2
2	No. of the modules installed	Wp capacity -100, 112.5 Wp Total No. of modules – 551840 Nos.
3	Tilt angle	13 degrees
4	Make & Model of Invertor	SMA – SC 2500 EV -19 Nos. ABB -PVS-980-58-2000 kVA-K – 2 Nos. ABB – PVS-980-58-2091 kVA-L-1 No.
5	Number of inverters	22 Nos.
6	Make & Number of Transformers & capacity	Voltamp- 2250kVA- 9 Nos. Voltamp – 2250 kVA -10 Nos. Scilchar – 2000 kVA – 2 Nos Scilchar – 2700 kVA – 1 No Bharat Bijlee -35/40 MVA – 2Nos.

During the current monitoring period, all project sites were operational and no events happened which may impact the GHG emission reductions or removals and monitoring.

Plant wise breakdown/shutdown details for the current monitoring period is mentioned in Appendix II of this monitoring report.

During the current monitoring period, no Project Proponent were changed.

3.2 Deviations

3.2.1 Methodology Deviations

No methodological deviation is applied during the current monitoring period.

3.2.2 Project Description Deviations

There was no project description deviation taken during the current monitoring period. The following deviations were taken during the previous monitoring period (23-March-2021 to 31-October-2022:

Deviation 1:

The Geo-coordinate of 40 MW Hindupur Solar Park Pvt. Ltd., Chittoor, Andhra Pradesh is revised to exact site location, there was some minor correction in minutes & seconds of values in the previous monitoring report.

The deviation is of permanent nature and does not affect the additionality and baseline scenario of the project activity.

Deviation 2:

In the event of main meter, which is used to record the net electricity exported by the project, is found to be faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced. The nature of deviation is permanent and does not affect the additionality and baseline scenario of the project activity.

3.3 Grouped Projects

The specified project is not a part of grouped project.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

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 in year y
Source of data	Calculated from CEA database, Version 12, May 2017 (as per Joint VCS PD & MR, Version 02 dated 16-July-2018)
Value applied	0.9843
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 05" as 3-year generation weighted average using data for the years 2013-14, 2014-15 & 2015-16. The data are obtained from "CO_2 Baseline Database for Indian Power Sector" version 12, published by the Central Electricity Authority, Ministry of Power, Government of India. Purpose of Data For the calculation of the Baseline Emission
Purpose of data	For the calculation of Baseline emissions
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 in year y
Source of data	Calculated from CEA database, Version 12, May 2017[11] (as per Joint VCS PD & MR, Version 02 dated 16-July-2018)
Value applied	0.9083
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 05" as 3-year generation weighted average using data for the years 2013-14, 2014-15 & 2015-16. The data are obtained from "CO2 Baseline Database for Indian Power Sector" version 12, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of data	For the calculation of the baseline emissions
Comments	This parameter is fixed ex-ante for the entire crediting period.

[11] https://cea.nic.in/wp-content/uploads/baseline/2020/07/user_guide_ver12.pdf

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2/MWh
Description	Combined Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 12, May 2017 (as per Joint VCS PD & MR, Version 02 dated 16-July-2018)
Value applied	0.9653
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$= Build margin CO_2 emission factor in year y (tCO_2/MWh) $EF_{grid,OM,y}$= Operating margin CO_2 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	For the calculation of the baseline emissions
Comments	This parameter is fixed ex-ante for the entire crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	$EG_{PJ,y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh (This value is the sum of the net electricity generated from all 3 sites).
Source of data	Monthly joint meter reading reports
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 has been considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	199,248 MWh

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[12]. The billing meter used for project activity having following specification Monitoring: ABT cum Tri vector meter are used. Data type: Measured Type of meter: Static type meter (Main, Check & Standby meter). Accuracy Class of meters: 0.2s. The meter details are mentioned in Appendix 1: Meter Calibration Details
QA/QC procedures to be applied	The meters are 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[13]. 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 are 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 do 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.

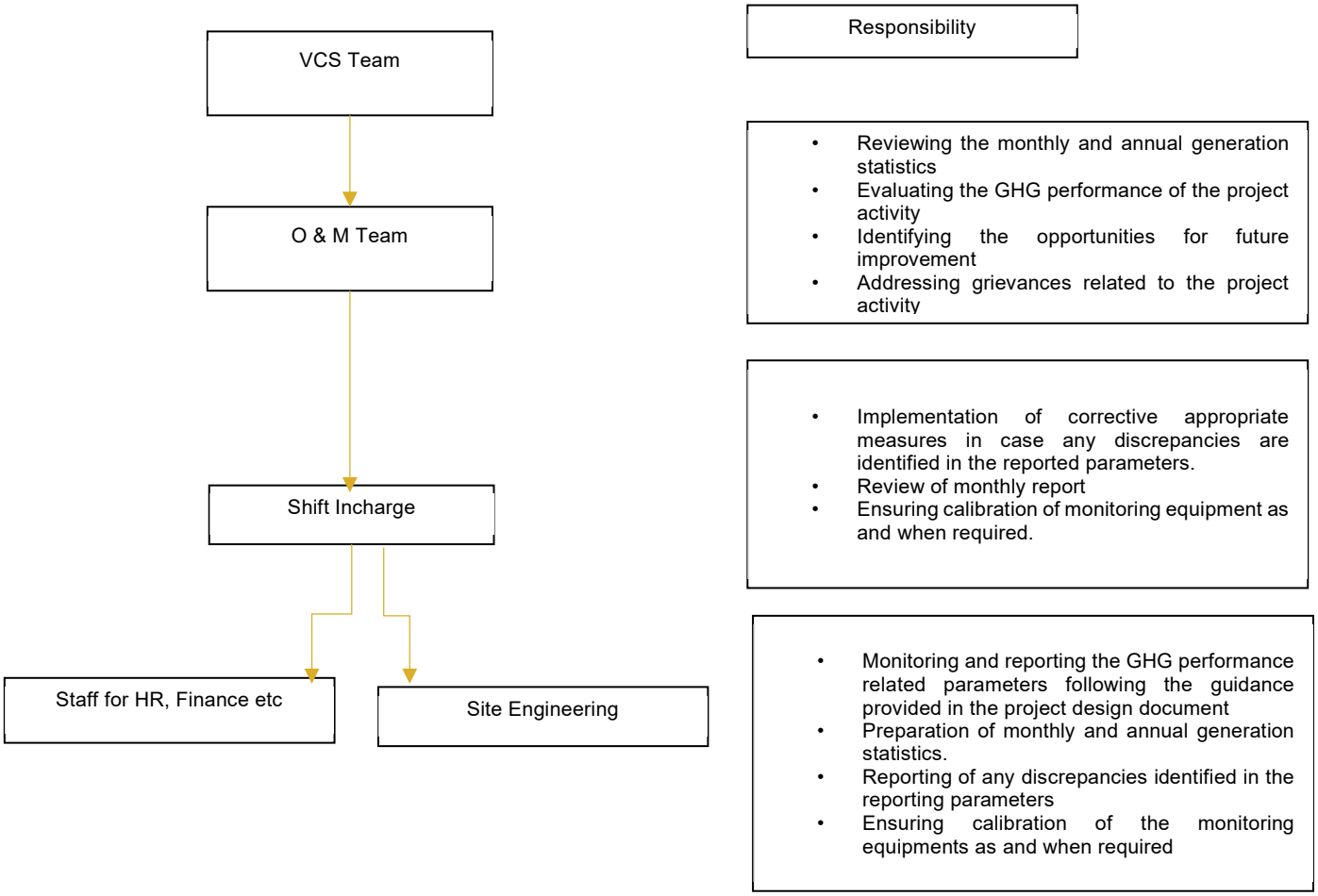
[12] The export and import terms are from the TRANSCO viewpoint. The energy exported from the project is considered as energy imported to the TRANSCO and vice-versa. Moreover, the APTRANSCO imports entire energy generated by the plant and pays as per the PPA rules. However, the energy exported by the APTRANSCO is accounted separately and charged at the rates fixed by the APTRANSCO.

[13] 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 equipment's for this project activity. The team comprises of the following members:



Data Measurement

The export and import energy have been measured continuously using above mentioned Main and Check meters located at the substations. Readings of meters has 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 were raised. These invoices are used for cross checking the meter readings taken for the respective project activity.

Data collection and archiving

Readings from meters are collected in the presence of the plant in-charge. Export and Import data are 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 is 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 does 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.

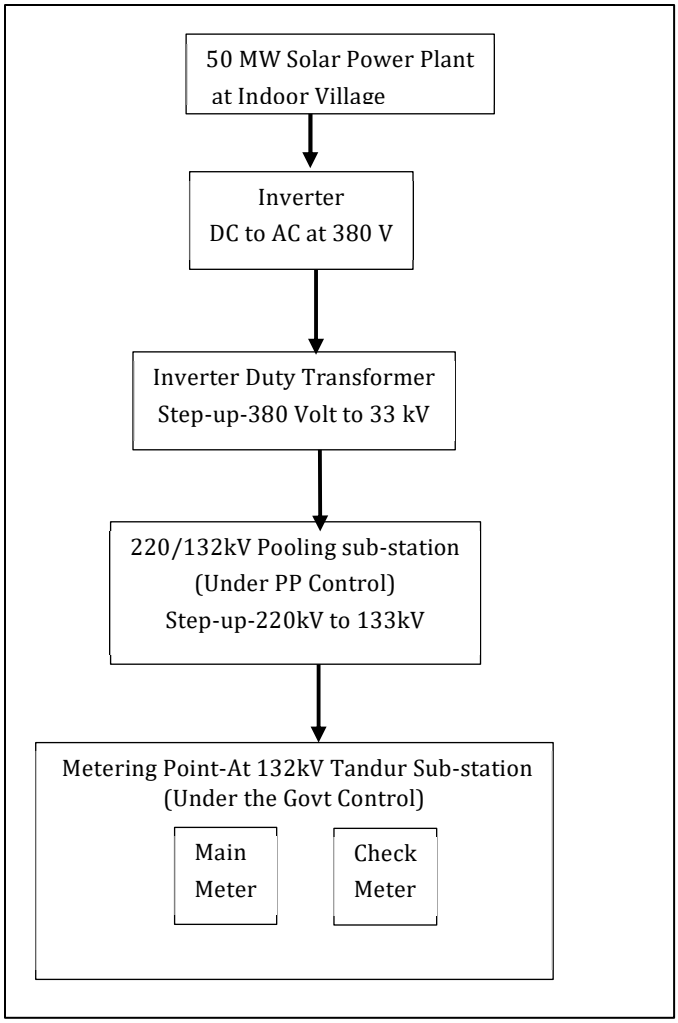
In the event that the main meter, which is used to record the net electricity exported by the project, is found to be faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced.

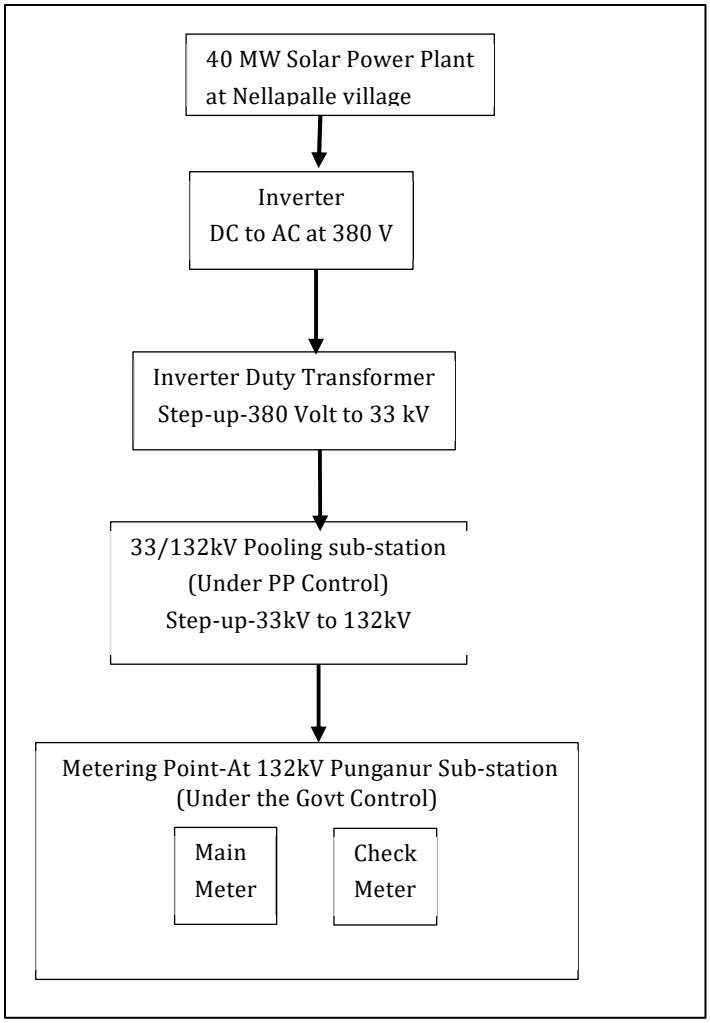
Personnel training

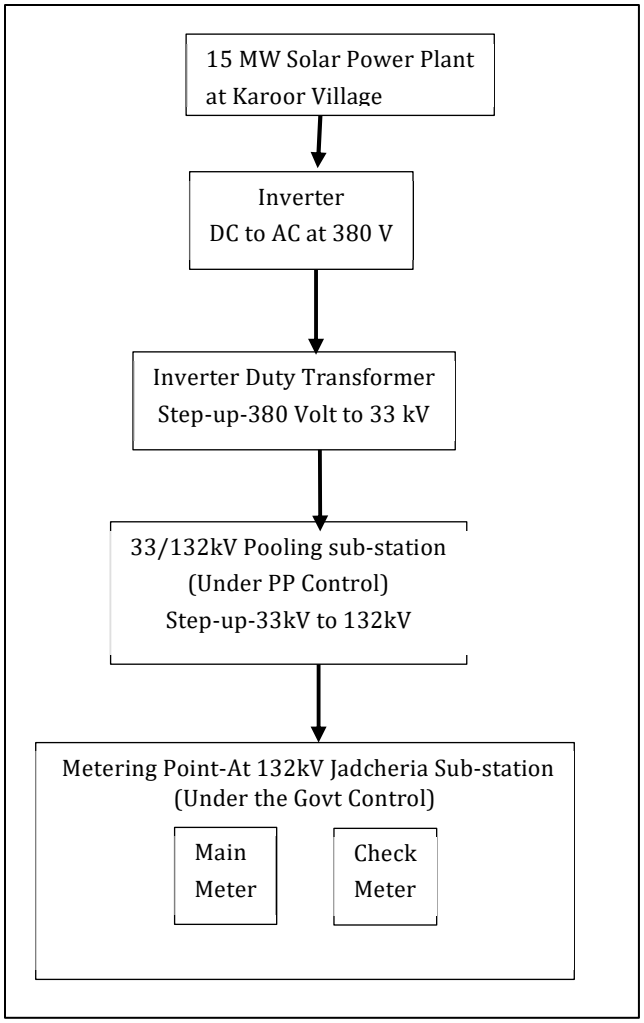
In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff are trained. The plant helpers are trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring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

Metering Arrangement

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


50 MW Solar Power Plant
at Indoor Village
Inverter
DC to AC at 380 V
Inverter Duty Transformer
Step-up-380 Volt to 33 kV
220/132kV Pooling sub-station
(Under PP Control)
Step-up-220kV to 133kV
Metering Point-At 132kV Tandur Sub-station
(Under the Govt Control)
Main
Meter
Check
Meter


40 MW Solar Power Plant
at Nellapalle village
Inverter
DC to AC at 380 V
Inverter Duty Transformer
Step-up-380 Volt to 33 kV
33/132kV Pooling sub-station
(Under PP Control)
Step-up-33kV to 132kV
Metering Point-At 132kV Punganur Sub-station
(Under the Govt Control)
Main
Meter
Check
Meter


15 MW Solar Power Plant
at Karoor Village
Inverter
DC to AC at 380 V
Inverter Duty Transformer
Step-up-380 Volt to 33 kV
33/132kV Pooling sub-station
(Under PP Control)
Step-up-33kV to 132kV
Metering Point-At 132kV Jadcheria Sub-station
(Under the Govt Control)
Main
Meter
Check
Meter

The metering arrangement for all the three sites are the same. Each 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

The baseline is the MWh produced by the renewable generating unit multiplied by an emission coefficient (measured in tCO_{2e}/MWh) calculated in a transparent and conservative manner as:

$BE_y = EF_y \text{ X } EG_y$

Where,

BE_y: Baseline emissions due to displacement of electricity during year y in tons of tCO_{2e}

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

$EF_{grid,CM,y}$: Combined Margin CO_2 emission factor in year y in tons CO_2/MWh

Hence, Baseline Emission (BE_y)= CO2 Emission Factor (EF_y) * Electricity supplied to the grid by the project activity during monitoring period (EG_y):

= 199,248*0.9653 = 166,985 tCO_{2e}

Grid Emission Factor,

The GEF is fixed ex-ante in the Joint VCS PD & MR (Version 02 dated 16-July-2018) which is given below:

Parameter	Value
OM	0.9843
BM	0.9083
CM	0.9653

.

5.2 Project Emissions

As per the approved consolidated Methodology ACM0002 (Version 18.1), para 34, for most renewable energy power generation project activities, PEy = 0.

5.3 Leakage Emissions

As per the approved consolidated Methodology ACM0002 (Version 18.1) section 5.6, No other leakage emissions are considered. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g., extraction, processing, transport etc.) are neglected. Hence, LE_y= 0.

5.4 GHG Emission Reductions and Carbon Dioxide Removals

The net emission reductions achieved during the current monitoring period are being calculated as per below equation:

Net Emission Reductions = BE_y – PE_y

= 166,985 – 0 = 166,985 tCO_{2e}

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Reduction VCUs (tCO_2e)	Removal VCUs (tCO_2e)	Total VCUs (tCO_2e)
01-March-2025 to 31-Dec-2025	131,408	0	0	131,408	0	131,408
01-Jan-2026 to 31-March-2026	35,576	0	0	35,576	0	35,576
Total	166,985	0	0	166,985	0	166,985

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
01-March-2025 to 31-Dec-2025	137,397	131,408	-4.36%	As per the registered PD estimated annual emission reduction from the project activity is 177,807 tCO_{2e}, whereas actual emission reductions achieved during the current monitoring period is 166,985 tCO_{2e}, which is 6.48% decrease than the estimated annual emission reductions.
01-Jan-2026 to 31-March-2026	40,411	35,576	-11.96%	
Total	177,807	166,985	-6.48%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
NA	NA	NA

THE ABOVE SECTION IS NOT APPLICABLE.

APPENDIX 2: CALIBRATION OF METERS

For Winsol Solar – 15 MW			
Meter Details	Main meter	Check Meter	Standby Meter
Meter Serial No.	APX00924	APX00925	APX00926
Make	Secure meters	Secure meters	Secure meters
Accuracy Class	0.2s	0.2s	0.2s
Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	30 July 2024	30 July 2024	30 July 2024
Due date of calibration	29 July 2029	29 July 2029	29 July 2029
For Winsol Solar-50 MW			
Meter Details	Main meter	Check Meter	Standby Meter
Meter Serial No.	APW00111	AP925645	APX00645
Make	Secure	Secure	Secure
Accuracy Class	0.2s	0.2s	0.2s
Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	05 December 2024	05 December 2024	05 December 2024
Calibration validity	04 December 2029	04 December 2029	04 December 2029
For Hindupur Solar-40 MW			
Hindupur Solar Park Pvt.Ltd.- Feeder I			
Meter Details	Main meter	Check Meter	Standby Meter
Meter Serial No.	APX00864	APX00865	APX00866
Make	Secure	Secure	Secure
Accuracy Class	0.2s	0.2s	0.2s
Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	21-January 2025	21-January 2025	21-January 2025
Due of Calibration	20-January 2030	20-January 2030	20-January 2030
Hindupur Solar Park Pvt. Ltd.- Feeder II			
Meter Details	Main Meter	Check meter	Standby Meter
Meter Serial No.	APX00858	APX00859	APX00860
Make	Secure	Secure	Secure
Accuracy Class	0.2s	0.2s	0.2s

Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	21-January 2025	21-January 2025	21-January 2025
Due of Calibration	20-January 2030	20-January 2030	20-January 2030
Hindupur Solar Park Pvt. Ltd.- Feeder III			
Meter Details	Main Meter	Check meter	Standby Meter
Meter Serial No.	APX00861	APX00862	APX00863
Make	Secure	Secure	Secure
Accuracy Class	0.2s	0.2s	0.2s
Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	21-January 2025	21-January 2025	21-January 2025
Due Date of Calibration	20-January 2030	20-January 2030	20-January 2030
Hindupur Solar Park Pvt. Ltd.- Feeder IV			
Meter Details	Main Meter	Check meter	Standby Meter
Meter Serial No.	APX00867	APX00868	APX00869
Make	Secure	Secure	Secure
Accuracy Class	0.2s	0.2s	0.2s
Calibration Frequency	Once in 5 years	Once in 5 years	Once in 5 years
Date of Calibration	21-January 2025	21-January 2025	21-January 2025
Due date of Calibration	20-January 2030	20-January 2030	20-January 2030