



**Verified Carbon
Standard**

RENEWABLE SOLAR POWER PROJECT BY ADANI GREEN ENERGY LIMITED



Document Prepared by EKI Energy Services Limited

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CONTENTS

1	PROJECT DETAILS.....	4
1.1	Summary Description of the Implementation Status of the Project	4
1.2	Sectoral Scope and Project Type	4
1.3	Project Proponent	4
1.4	Other Entities Involved in the Project	5
1.5	Project Start Date	5
1.6	Project Crediting Period	6
1.7	Project Location	6
1.8	Title and Reference of Methodology	9
1.9	Participation under other GHG Programs	10
1.10	Other Forms of Credit.....	10
1.11	Sustainable Development Contributions	10
2	SAFEGUARDS	16
2.1	No Net Harm	16
2.2	Local Stakeholder Consultation	16
2.3	AFOLU-Specific Safeguards	16
3	IMPLEMENTATION STATUS	16
3.1	Implementation Status of the Project Activity	17
3.2	Deviations	22
3.3	Grouped Projects	22
4	DATA AND PARAMETERS.....	22
4.1	Data and Parameters Available at Validation	22
4.2	Data and Parameters Monitored.....	24
4.3	Monitoring Plan.....	29
5	QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS	30
5.1	Baseline Emissions	31
5.2	Project Emissions	31
5.3	Leakage.....	31
5.4	Net GHG Emission Reductions and Removals	31
	APPENDIX 1: METER CALIBRATION DETAILS.....	34

APPENDIX 2: MAJOR BREAKDOWN DETAILS 39

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 total capacity of 990 MW solar power project which are installed in Chhattisgarh, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh states of India. The solar projects have been developed by the SPVs of Adani Green Energy Limited.

Over the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 1,553,021 tCO_{2e} per year, there on displacing 1,639,080 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 details of the project and their location of installation are mentioned in Section 3.1 of this MR, the table below shows the first and last date of commissioning of the installations involved in the project activity: -

Name of SPVs	Capacity in MW	Date of Commission	Connection with Grid	State	Usage
Adani Green Energy (UP) Limited	240 MW	20 MW on 28-September-2017	Indian Grid	Karnataka	Sale to State Discom
Adani Green Energy (UP) Limited	50 MW	10-May-2019		Uttar Pradesh	Sale to State Discom

All the SPVs are of Adani Green Energy Limited. The project is promoted by Adani Green Energy Limited.

During the Current Monitoring Period from 01-January-2021 to 30-November-2021 (First and last date included) the project activity has supplied 1,888,464.28 MWh of electricity, and thus contributing to the GHG reductions 1,789,206 tCO_{2e} (Round-down value).

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 19.0¹

The project is not a grouped project activity.

1.3 Project Proponent

Organization name	Adani Green Energy Limited
Contact person	Alpesh Gedia
Title	Associate Manager- Business Development
Address	Adani House, Nr Mithakhali Six Roads, Navrangpura, Ahmedabad 380009, Gujarat, India
Telephone	+919907534900
Email	alpeshk.gedia@adani.com

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Manish Dabkara
Title	CEO & MD
Address	EnKing Embassy, Office No 201, Plot 48, Scheme 78, Part 2, VijayNagar, Indore- 452010, Madhya Pradesh, India.
Telephone	+91-731-4289086
Email	registry@enkingint.org ;

1.5 Project Start Date

Start date of the project activity is the earliest date of interconnection with the grid i.e., 28-September-2017. This is the date of commissioning of 20 MW solar project activity by Adani Green Energy (UP) Limited.

¹ <http://cdm.unfccc.int/methodologies/DB/VJI9AX539D9MLOPXN2AY9UR1N4IYGD>

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: 28-September-2017

Crediting Period End date: 27-September-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 SPVs	Capacity (MW)	Village(s)	Tehsil / Mandal	District	State
Parampujya Solar Energy Private Limited	100 MW	Rani & Bundeli	-	Dhamdha	Chhattisgarh
	20 MW	Kilaj	Tuljapur	Osmanabad	Maharashtra
	100 MW	Thirumani, Rayacherlu, Vallur, Balasamudra	Pavagada	Tumkur	Karnataka
	40 MW	Kallur, Balgera & Kudgunti	Yelburga	Koppal	
	50 MW	Thirumani, Rayacherlu, Vallur, Balasamudra	Pavagada	Tumkur	
Wardha Solar (Maharashtra) Private Limited	100 MW	Madhuvanahalli	Kollegal	Chamarajna gar	
	50 MW	Maskal	Aurad	Bidar	
	40 MW	Nalwar	Chittapura	Kalaburagi	
	50 MW	Rajeshwar & Handral	Basavakalyan a	Bidar	
	50 MW	Hattigudur & Bommanahalli	Shahapur	Yadgir	
	50 MW	Yatnal	Vijayapura	Vijayapura	
	10 MW	Kallur, Balgera & Kudgunti	Yelburga	Koppal	
Kodangal Solar Parks	20 MW	Hebbal	B.Bagewadi	Vijayapur	

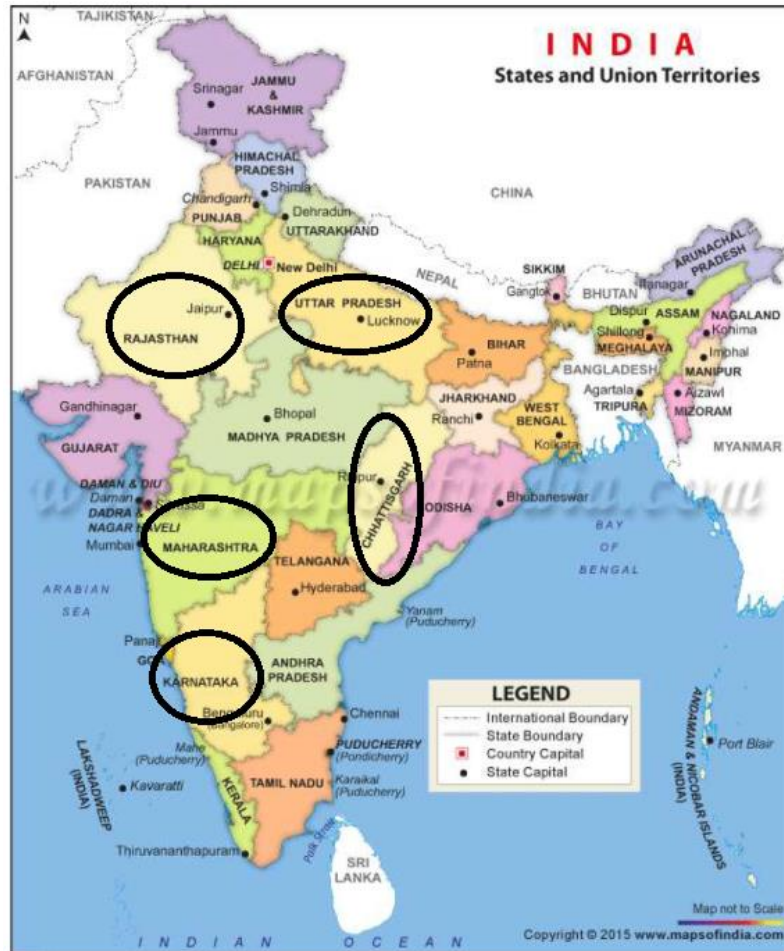
Private Limited					
Prayatna Developers Private Limited	20 MW	Kanasar	Bap	Jodhpur	Rajasthan
Adani Green Energy (UP) Limited	20 MW	Kadaramandalagi	Byadagi	Haveri	Karnataka
	20 MW	Guddehosur	Chanapatana	Ramanagara	
	20 MW	Talekoppa	Gubbi	Tumkur	
	20 MW	Chikkahalli	Holenarasipura	Hassan	
	20 MW	-	Jewargi	Kalaburagi	
	20 MW	-	K. R. Pet	Mandya	
	20 MW	Thirthbandathi	Malur	Kolar	
	20 MW	Gejjaraguppe	Magadi	Ramanagara	
	20 MW	Kalkare	Periyapatna	Mysuru	
	20 MW	Chikkasulikere	Ramanagara	Ramanagara	
	20 MW	Akkur	T.Narasipura	Mysuru	
	20 MW	Vederahalli & Rettanahalli	Tiptur	Tumakuru	
Adani Green Energy (UP) Limited	50 MW	Badanpur	-	Jhansi	Uttar Pradesh

The Geo-coordinates of the project site is mentioned below:

Name of SPVs	Capacity (MW)	Latitude	Longitude
Parampujya Solar Energy Private Limited	100 MW	21° 31' 19.20" N 21° 31' 58.8" N	81° 12' 03.60" E 81° 14' 42.0" E
	20 MW	17° 56' 38.40" N	76° 16' 15.60" E
	100 MW	14° 15' 29.39" N 14° 14' 06.70" N	77° 29' 14.68" E 77° 27' 12.76" E
	40 MW	15° 34' 05.05" N	76° 02' 02.90" E
	50 MW	14° 14' 45.60" N	77° 27' 03.60" E
Wardha Solar (Maharashtra) Private Limited	100 MW	18° 21' 4.62" N	77° 18' 53.02" E
	50 MW	18° 11' 4.62" N	77° 24' 53.02" E
	40 MW	16° 55' 57.28" N	76° 59' 34.58" E
	50 MW	17° 47' 30.96" N	77° 1' 5.07" E
	50 MW	18° 11' 4.62" N	77° 18' 53.02" E
	50 MW	18° 10' 4.62" N	77° 24' 53.02" E
	10 MW	18° 20' 4.62" N	77° 16' 53.02" E

Kodangal Solar Parks Private Limited	20 MW	16° 27' 25.20" N	75° 56' 52.80" E
Prayatna Developers Private Limited	20 MW	27° 26' 39.31" N	71° 58' 1.75" E
Adani Green Energy (UP) Limited	20 MW	12° 13' 51.70" N	77° 03' 38.50" E
	20 MW	14° 41' 48.21" N	75° 29' 18.78" E
	20 MW	12° 49' 54.48" N	76° 12' 50.63" E
	20 MW	13° 16' 57.95" N	76° 25' 17.47" E
	20 MW	12° 50' 16.89" N	77° 58' 58.70" E
	20 MW	12° 37' 12.03" N	77° 07' 40.37" E
	20 MW	12° 40' 48.0" N	76° 35' 42.0" E
	20 MW	12° 25' 48.0" N	76° 11' 02.40" E
	20 MW	16° 49' 01.20" N	76° 33' 00.00" E
	20 MW	13° 00' 54.00" N	77° 13' 30.0" E
	20 MW	12° 48' 18.0" N	77° 09' 25.20" E
	20 MW	13° 24' 43.20" N	76° 45' 36.0" E
Adani Green Energy (UP) Limited	50 MW	25° 22' 02.31" N	78° 18' 30.01" E

The project locations have been in Chhattisgarh, Maharashtra, Karnataka, Rajasthan and Uttar Pradesh states of India. The map of India is shown as below:



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 19.0 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 system³ - Version 07.0 (EB 100, Annex 04)

² <http://cdm.unfccc.int/methodologies/DB/VJI9AX539D9MLOPXN2AY9UR1N4IYGD>

³ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

- Methodological Tool- Tool for the demonstration and assessment of additionality⁴ - Version 07.0.0 (EB 70, Annex 08)

1.9 Participation under other GHG Programs

The project has neither been registered, nor seeking registration under any other GHG programs. The project is seeking registration only in VCS program.

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits:

Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits.

Other Forms of Environmental Credit:

Not applicable, as the project is not registered in any other GHG mechanism other than VCS. Also, the project activity is not availing any REC benefits and the same can be confirmed from publicly available link of REC generators.

1.11 Sustainable Development Contributions

The four indicators stipulated by the NCDMA, MOEF&CC (National CDM Authority) which is the DNA (Designated National Authority) of India, for defining sustainable development are:

- Social well being
- Economic well being
- Environmental well being
- Technological well being

The Project participant contribution from the project activity towards sustainable development in accordance to NCDMA is explained below:

Social well-being:

- The project is implemented in a rural area that does not have proper roads and other infrastructure facilities. The project activity has augmented infrastructural development like roads etc. in the area, thus benefitting local communities.
- The project activity leads to enhanced direct and indirect employment opportunities at all levels from unskilled to skilled workers.

⁴ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

Economic well-being:

- The project activity involves capital investments, thus leading to the overall development of the region.
- The project activities leads to enhanced business opportunities for local stakeholders like consultants, suppliers, manufacturers, contractors etc. All this has led to improved financial security and overall development of the region.

Environmental well-being:

- The project activity being solar power project has minimum environmental impact.
- Contribute in bridging the demand-supply gap of electricity by producing green energy
- The electricity generated by the project activity is supplied to the Unified Indian grid, which otherwise would have been generated by fossil fuel fired power plants in the grid.
- The project activity also helps in conservation of depleting fossil fuels which at present are predominantly used for power generation.

Technical well-being:

The project activity is a clean and eco-friendly type of power generation in comparison to fossil fuel based projects. This not only helps reduce environmental pollution but also helps in conserving fossil fuels.

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy sources. The project activity involves total capacity of 990 MW solar power project which are installed in Chhattisgarh, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh states of India. The solar projects have been developed by the SPVs of Adani Green Energy Limited.

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

In a nutshell, the various contributions by the Project Proponent (PP) through the Special Purpose Vehicles (SPVs) towards the SDGs has been given below: -

1. **SDG 7 Affordable and Clean Energy**⁵: Since the project activity is a solar power project, it generates clean energy. The Project activity is a new facility (Greenfield) and the

⁵ <https://sdgs.un.org/goals/goal7>

electricity generated by the project is 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.

2. **SDG 13 Climate Action⁶:** The main purpose of this project activity is to generate a clean form of electricity through renewable solar energy sources. The project activity involves total capacity of 990 MW solar power project which is installed in Chhattisgarh, Karnataka, Maharashtra and Rajasthan states of India. The solar projects have been developed by the SPVs of Adani Green Energy Limited.
3. **SDG 8 Economic Growth⁷:** The Project Proponent aims to provide employment to local men and women with decent compensation. PP has targeted to employ 20 persons by the year 2025 and minimum 1 person per annum after 2025.

⁶ <https://sdgs.un.org/goals/goal13>

⁷ <https://sdgs.un.org/goals/goal8>

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	7.2.1: Renewable energy share in the total final energy consumption	Implemented activities to increase	About 1,888,464.28 MWh renewable electricity was supplied to the Indian grid during the current monitoring period that helps to increase the renewable energy share in the energy mix.	Previous Monitoring Period: 28-September-2017 to 30-September-2018 (First and last date included): 1,060,786.39 MWh Previous Monitoring Period: 01-October-2018 to 31-December-2019 (Inclusive of both the dates): 2,526,964.28 MWh Previous Monitoring Period: 01-January-2020 to 31-December-2020 ((Inclusive of both the dates): 2,052,382.33 MWh Current Monitoring Period: 01-January-2021 to 30-November-2021 (Inclusive of both the dates) : 1,888,464.28 MWh Overall, the project activity has contributed a total of 7,528,597.28 MWh of clean electricity generation since commissioning⁸.

⁸ Contributions (7.2.1 and 13.0) in this table have been updated, compared to previous reporting periods, to more accurately reflect the project's contributions to the Sustainable Development Goals.

2)	8.0	Employment of local men and women	Implemented activities to increase	No change. The Project Proponent has targeted to employ 20 persons by the year 2025 and minimum 1 person per annum after 2025.	Previous Monitoring Period: 28-September-2017 to 30-September-2018 (First and last date included): 0 Previous Monitoring Period: 01-October-2018 to 31-December-2019 (Inclusive of both the dates): 0 Previous Monitoring Period: 01-January-2020 to 31-December-2020 ((Inclusive of both the dates): 0 Current Monitoring Period: 01-January-2021 to 30-November-2021 (Inclusive of both the dates) : 0 There has been no contribution against this SDG since its commissioning, hence overall contribution is zero.
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3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By supplying 1,789,206 MWh clean electricity to Indian grid, the project avoided release of 189,259 tCO ₂ in to the atmosphere during the reporting period.	Previous Monitoring Period: 28-September-2017 to 30-September-2018 (First and last date included): 1,004,735 tCO₂e Previous Monitoring Period: 01-October-2018 to 31-December-2019 (Inclusive of both the dates): 2,394,094 tCO₂e Previous Monitoring Period: 01-January-2020 to 31-December-2020 ((Inclusive of both the dates): 1,944,499 tCO₂e Current Monitoring Period: 01-January-2021 to 30-November-2021 (Inclusive of both the dates) 1,789,206 tCO₂e Overall the project activity has prevented the release of a total of 7,132,534 tCO₂e in the atmosphere since its commissioning⁹.
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⁹ Contributions (7.2.1 and 13.0) in this table have been updated, compared to previous reporting periods, to more accurately reflect the project's contributions to the Sustainable Development Goals.

2 SAFEGUARDS

2.1 No Net Harm

The project activity has no significant impact on the environment. Solar power projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006 and thus an EIA is not required. Ministry of Environment & forests Climate Change vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011, has re-affirmed this and exempted wind / solar power plants from EIA and Environmental Consent requirement.

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.

Thus, there is no any significant impact 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

Detailed local stakeholders' consultation was conducted during the registration of the project – by identification of stakeholders, identification of local stakeholders, invitation of them, held meeting where project activity was explained in details and the PP also took due care of comments/suggestions of the local stakeholders.

The process of local stakeholder consultation is continuous. During the current monitoring period, the project proponent has kept grievance register in plant site office and sought comments/grievances/suggestions from local stakeholders including local community, government agencies and NGOs. Besides, the PP has also kept provision for submitting comments/grievances/suggestions from local stakeholders through direct mail. However, no major comments/grievances/suggestions have been received from the aforementioned stakeholders during the current monitoring period and all such minor suggestions have been take care by the PP.

2.3 AFOLU-Specific Safeguards

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

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 990 MW Solar project located at Chhattisgarh, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh states in India. The project is promoted by **Adani Green Energy Limited**.

The Project activity is a new facility (Greenfield) and the electricity generated by the project is exported to the Indian electricity grid. The project is therefore displacing 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 results in replacing anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 1,553,021 tCO_{2e} per year, thereon displacing 1,639,080 MWh/year amount of electricity from the grid over the 10 years crediting period.

The project activity harnesses solar energy through installation of Solar PV project with total installed capacity of 990 MW solar power project.

The technical specification for 100 MW solar project by Parampujya Solar Energy Private Limited at Chhattisgarh.

Sl. No.	Technical details of the equipment ¹⁰	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters, Inverter Make & Model	1163 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22

The technical specification for 20 MW solar project by Parampujya Solar Energy Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹¹	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Module's capacity and Model	Model capacity- 320 Wp Model- Lion Series

¹⁰ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 100 MW.

¹¹ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 20 MW.

3	Number of Inverters, Inverter Make & Model	465 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22

The technical specification for 100 MW solar project by Parampujya Solar Energy Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹²	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters, Inverter Make & Model	1163 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22

The technical specification for 40 MW solar project by Parampujya Solar Energy Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹³	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- Lion Series
3	Number of Inverters, Inverter Make & Model	931 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	20

The technical specification for 50 MW solar project by Parampujya Solar Energy Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹⁴	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters, Inverter Make & Model	1163 Inverters Huawei/ SUN2000-43kTL-IN-C1

¹² It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 100 MW.

¹³ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 40 MW.

¹⁴ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 50 MW.

4	Modules per String	22
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The technical specification for 350 MW solar project by Wardha Solar (Maharashtra) Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹⁵	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters , Inverter Make & Model	1163 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22

The technical specification for 20 MW solar project by Prayatna Developers Private Limited at Rajasthan.

Sl. No.	Technical details of the equipment ¹⁶	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters , Inverter Make & Model	466 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	20

The technical specification for 20 MW solar project by Kodangal Solar Parks Private Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹⁷	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Manufacturer	Model capacity- 320 Wp Manufacturer- MSPVL/Suntech
3	Number of Inverters , Inverter Make & Model	465 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22/20

¹⁵ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 350 MW.

¹⁶ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 20 MW.

¹⁷ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 20 MW.

The technical specification for 240 MW solar project by Adani Green Energy (UP) Limited at Karnataka.

Sl. No.	Technical details of the equipment ¹⁸	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Manufacturer	Model capacity- 117.5 Wp Manufacturer- First Solar
3	Number of Inverters , Inverter Make & Model	466 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	11

The technical specification for 50 MW solar project by Adani Green Energy (UP) Limited at Jhansi, Uttar Pradesh.

Sl. No.	Technical details of the equipment ¹⁹	Description
1	Technology Used	Solar PV technology (Poly-Crystalline)
2	Modules capacity and Model	Model capacity- 320 Wp Model- JKM 320PP-72
3	Number of Inverters , Inverter Make & Model	1163 Inverters Huawei/ SUN2000-43kTL-IN-C1
4	Modules per String	22

The details of the project commissioning dates are mentioned in the table below.

Name of SPVs	Capacity in MW	Date of Commission	Connection with Grid	State	Usage
Parampujya Solar Energy Private Limited	100 MW	40 MW on 16-December-2017	Indian Grid	Chhattisgarh	Sale to SECI Limited
		10 MW on 08-March-2018			
		40 MW on 14-December-2017			
		10 MW on 08-March-2018			
	20 MW	22-February-2018		Maharashtra	Sale to SECI Limited
	100 MW	50 MW on 06-December-2017		Karnataka, Pavagada	Sale to NTPC Limited
		50 MW on 15-December-2017			
	40 MW	20 MW on 08-March-2018			

¹⁸ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 240 MW.

¹⁹ It is to be noted that in future there is possibility of change in module configuration, however project capacity in total will remain same as 50 MW.

		20 MW on 30-April-2018		Karnataka, Kallur	Sale to SECI Limited
	50 MW	03-January-2018		Karnataka, Pavagada	Sale to NTPC Limited
Wardha Solar (Maharashtra) Private Limited	350 MW	100 MW on 12-February-2018		Karnataka	Sale to SECI Limited
		50 MW on 27-February-2018			
		40 MW on 26-February-2018			
		50 MW on 29-January-2018			
		50 MW on 14-February-2018			
		50 MW on 17-December-2017			
		10 MW on 08-March-2018			
Kodangal Solar Parks Private Limited	20 MW	05-January-2018		Karnataka	Sale to State Discom
Prayatna Developers Private Limited	20 MW	10 MW on 29-September-2017		Rajasthan, Bhadla Solar Park	Sale to NTPC Limited
		10 MW on 11-October-2017			
Adani Green Energy (UP) Limited	240 MW	20 MW on 30-January-2018		Karnataka	Sale to State Discom
		20 MW on 02-March-2018			
		20 MW on 09-March-2018			
		20 MW on 13-October-2017			
		20 MW on 18-November-2017			
		20 MW on 22-December-2017			
		20 MW on 18-October-2017			
		20 MW on 08-January-2018			
		20 MW on 28-September-2017			
		20 MW on 28-March-2018			
		20 MW on 02-October-2017			
		20 MW on 27-January-2018			
Adani Green Energy (UP) Limited	50 MW	10-May-2019		Uttar Pradesh	Sale to State Discom

3.2 Deviations

3.2.1 Methodology Deviations

There is no methodology deviation applied during this monitoring period.

3.2.2 Project Description Deviations

Deviation has been sought for the installations at following locations due to change in the format of the Joint Meter Reading by their respective State Utilities which is beyond the control of the Project Proponent:-

1. **Chhattisgarh:** The JMR shows the power imported by the state utility (Chhattisgarh State Power Transmission Company Limited, CSPTCL) or in other word the electricity exported by the installation and the same is invoiced monthly by the PP.
2. **Pavagada:** There is no JMR issued by the State Utility for this installation but a Report by the Southern Regional Power Committee which shows the transaction of electricity (export as scheduled) at the Injecting Utility Boundary. Hence the same scheduled value of electricity is used by PP for invoicing as well.

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 in year y
Source of data	Calculated from CEA database, Version 13, June 2018 ²⁰
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 “CO ₂ Baseline Database for Indian Power Sector” version 13, published by the Central Electricity Authority, Ministry of Power, Government of India.

²⁰ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver13.pdf

Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ /MWh
Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 13, June 2018 ²¹
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: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ 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	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 in year y
Source of data	Calculated from CEA database, Version 13, June 2018 ²²
Value applied	0.8723
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 per the latest data available for 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	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

²¹ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver13.pdf
²² http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver13.pdf

4.2 Data and Parameters Monitored

For Karnataka Site

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 in MWh
Source of data	Monthly joint meter reading reports ²³
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	1527687.48
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.
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.²⁴ 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 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

²³ It is to be noted for Pavagada site, there is no JMR issued by the State Utility for this installation but a Report by the Southern Regional Power Committee which shows the transaction of electricity (export as scheduled) at the Injecting Utility Boundary. Hence the same scheduled value of electricity is used by PP for invoicing as well.

²⁴ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

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.
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For Rajasthan Site

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 in MWh
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 will be considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	43231.20
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.
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.²⁵ 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 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

²⁵ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

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.
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For Chhattisgarh Site:

Data / Parameter	$EG_{PJ,y}$
Data unit	MWh/y
Description	Quantity of electricity supplied by the project plant/unit to the grid in year y in MWh
Source of data	Monthly joint meter reading reports
Description of measurement methods and procedures to be applied	The JMR shows the power imported by the state utility (Chhattisgarh State Power Transmission Company Limited, CSPTCL) or in other word the electricity exported by the installation and the same is invoiced monthly by the PP.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	1,99,380.128
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.
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.²⁶ 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 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	Not Applicable

²⁶ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

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.
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For Maharashtra Site

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 in MWh
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 will be considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	38,230.050
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.
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.²⁷ 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 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

²⁷ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

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.
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For Uttar Pradesh Site

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 in MWh
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 will be considered for ER calculations.
Frequency of monitoring/recording	Continuous measurement & monthly recording
Value monitored	79,935.417
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.
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.²⁸ 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 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

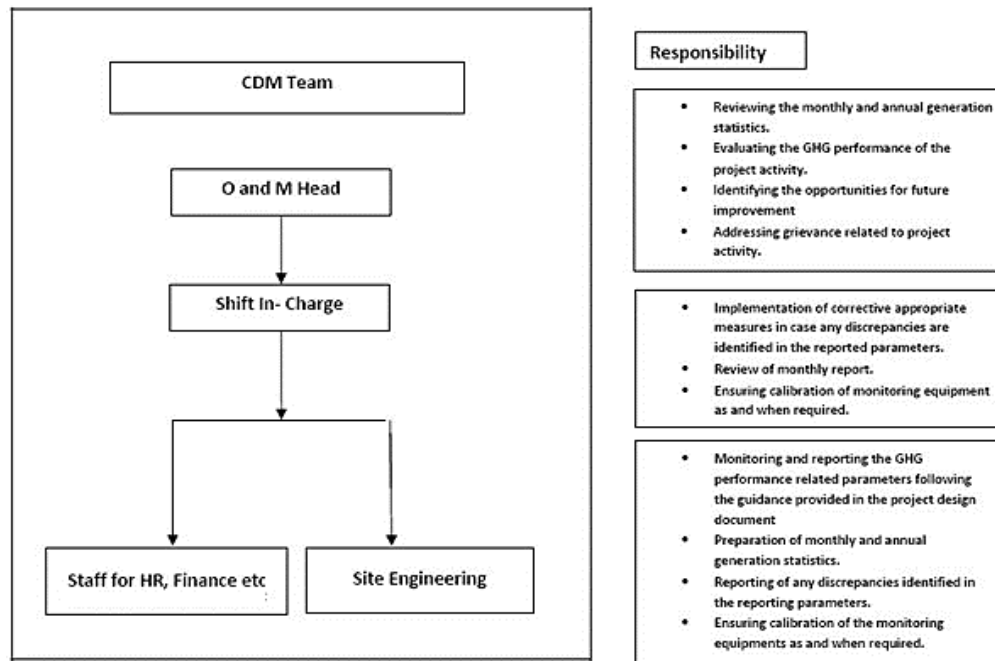
²⁸ http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf

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.
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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 has been implemented by the project participant describes about the monitoring organization, 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 is 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 is 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 are 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

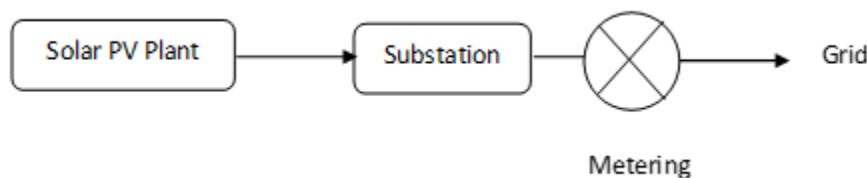
The project activity **does** not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

Personnel training

In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff has been trained. The plant helpers have been 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 metering arrangement for all the solar sites are the same. Each solar plant have 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

$$BE_y = EG_{PJ, y} * EF_{grid, CM, y}$$

Where:

BE_y : Baseline emissions in year y (tCO₂e/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 VCS 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” (tCO₂e/MWh)

Parameter	Unit	Value
$EG_{PJ, y}$	MWh	1888464.27893
$EF_{grid, CM, y}$	tCO ₂ e/MWh	0.9475
BE_y	=	1888464.27893* 0.9475
BE_y	=	1789206 tCO ₂ e (Round down value)

5.2 Project Emissions

Not Applicable, since project emissions from the solar project activity is zero as per ACM0002 methodology.

5.3 Leakage

Not Applicable, since leakage emissions from the solar project activity is zero as per ACM0002 methodology.

5.4 Net GHG Emission Reductions and Removals

In reference to section 5.1 of this MR, the Baseline emission has been calculated using the formula given below: -

$$BE_y = EG_{PJ, y} * EF_{grid, CM, y}$$

Where:

BE_y : Baseline emissions in year y (tCO₂e/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 VCS project activity in year y (MWh/yr)

$EF_{grid, CM, y}$: 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” (tCO_2e/MWh)

Hence,

$$BE_y = 1888464.27893 * 0.9475$$

$$= 1789206 \text{ tCO}_2e \text{ (Round down value)}$$

As per Section 5.7 of ACM0002 methodology (version 19), Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (tCO_2e/yr)

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

PE_y = Project emissions in year y (tCO_2e/yr)

$$\text{Hence, } ER_y = 1789206 - 0$$

$$= 1,789,206 tCO_2e \text{ (Rounded Down Figure)}$$

The breakdown of GHG emission reductions and removals by vintages has been summarized in the table below: -

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)
2021	1,789,206	0	0	1,789,206
Total	1,789,206	0	0	1,789,206

During the current Monitoring Period from 01-January-2021 to 30-November-2021, actual emission reductions achieved are 1,789,206 tCO_2e whereas estimated emission reductions was 1,421,120 tCO_2e . The project witnessed an increase of 25.9% in emission reductions as compared to ex-ante emissions, which is due to natural phenomena and nature dependent and cannot be controlled by the Project Proponent. Since this is the 4th verification of the project activity, the net electricity

generated for these monitoring periods, emission reduction (actual as well as estimated) and its percentage change is as below: -

Monitoring Period			Total Net Electricity Supplied $EG_{PJ,y}$ (MWh)	ER Achieved (tCO _{2e})	% Change in ER (Actual vs Estimated)
1st	28-Sep-17	30-Sep-18	1060786.385	1004735	-36%
2nd	1-Oct-18	31-Dec-19	2526964.283	2394094	-24%
3rd	1-Jan-20	31-Dec-20	2052382.327	1944499	25%
4th (Current)	1-Jan-21	30-Nov-21	1887778.158	1788554	26%
					-9%

APPENDIX 1: METER CALIBRATION DETAILS

Name of SPVs	Location	Meter Details	Accuracy Class of Meter	Date of Calibration	Due date of calibration
Parampujya Solar Energy Private Limited	Chhattisgarh	Main Meter: CSE52107 ²⁹	0.2s	04-February-2021	03-February-2026
		Check Meter: CSE52108 ³⁰	0.2s	04-February-2021	03-February-2026
		Main Meter: XE554165	0.2s	14-December-2017	13-December-2022
		Check Meter: CSE52109 ³¹	0.2s	03-February-2021	02-February-2026
	Kilaj, Maharashtra	Main Meter: 02832472	0.2s	07-February-2018	06-February-2023
		Check Meter: 02832473	0.2s	07-February-2018	06-February-2023
	Pavagada, Karnataka	T2P5 Main Meter 17117921	0.2s	20-August-2019	19-August-2024
		T2P5 Check Meter 17117922	0.2s	20-August-2019	19-August-2024
		T2P6 Main Meter 17117919	0.2s	20-August-2019	19-August-2024
		T2P6 Check Meter 17117920	0.2s	20-August-2019	19-August-2024
		R1P11 Main Meter 17117925	0.2s	20-August-2019	19-August-2024
		R1P11 Check Meter 17117929	0.2s	20-August-2019	19-August-2024
		R1P12 Main Meter 17117923	0.2s	20-August-2019	19-August-2024
		R1 P12 Check Meter 17117924	0.2s	20-August-2019	19-August-2024
		T2P09 Main Meter 17117883	0.2s	20-August-2019	19-August-2024
		T2P09 Check Meter 17117894	0.2s	20-August-2019	19-August-2024
		T2P10 Main Meter 17117809	0.2s	20-August-2019	19-August-2024
		T2 P10 Check Meter 17117859	0.2s	20-August-2019	19-August-2024

²⁹ Meter Replaced on 08 March 2021; Details of new meter: Sl. No. CSE52107; Make: SECURE; Type: R3E, Accuracy class: 0.2s;

³⁰ Meter Replaced on 08 March 2021; Details of new meter: Sl. No. CSE521078 Make: SECURE; Type: R3E, Accuracy class: 0.2s;

³¹ Meter Replaced on 08 March 2021. Details of new meter : Sl. No.: CSE52109; Make: SEMS; Type: R3E, Accuracy class: 0.2s;

Name of SPVs	Location	Meter Details	Accuracy Class of Meter	Date of Calibration	Due date of calibration
	Kallur, Karnataka	Main Meter 17051235	0.2s	23-October-2018	22-October-2023
		Check Meter 17117851	0.2s	23-October-2018	22-October-2023
Wardha Solar (Maharashtra) Private Limited	Madhuvanahalli, Karnataka	Main Meter 17010230	0.2s	29-June-2019	28-June-2024
		Check Meter 17002967	0.2s	29-June-2019	28-June-2024
		Main Meter 17117916	0.2s	29-June-2019	28-June-2024
		Check Meter 17117908	0.2s	29-June-2019	28-June-2024
	Maskal, Karnataka	Main Meter 17117793	0.2s	10-December-2018	09-December-2023
		Check Meter 17117794	0.2s	10-December-2018	09-December-2023
	Nalwar, Karnataka	Main Meter 17069 221	0.2s	04-September-2019	03-September-2024
		Check Meter 17069179	0.2s	04-September-2019	03-September-2024
	Rajeshwar & Handral, Karnataka	Main Meter 16113406	0.2s	22-September-2021 ³²	21-September-2026
		Check Meter 16113453	0.2s	22-September-2021 ³³	21-September-2026
	Rastapur, Karnataka	Main Meter 17069189	0.2s	28-April-2017	27-April-2022
		Check Meter 17069203	0.2s	28-April-2017	27-April-2022
	Yetnal, Karnataka	Main Meter 17010229	0.2s	08-March-2019	07-March-2024
		Check Meter 17115543	0.2s	08-March-2019	07-March-2024
	Shorapur, Karnataka	Main Meter 16113314	0.2s	20-July-2020	19-July-2025
		Check Meter 16102162	0.2s	20-July-2020	19-July-2025

³² Previously calibrated at the time of commissioning on 29-January-2018.

³³ Previously calibrated at the time of commissioning on 29-January-2018.

Name of SPVs	Location	Meter Details	Accuracy Class of Meter	Date of Calibration	Due date of calibration
Kodangal Solar Parks Private Limited	Bagewadi, Karnataka	Main Meter 17117910	0.2s	28-December-2021 ³⁴	27-December-2026
		Check Meter 17117915	0.2s	28-December-2021 ³⁵	27-December-2026
Prayatna Developers Private Limited	Kanasar, Rajasthan	Main Meter RJB 90451	0.2s	01-December-2019	30-November-2024
		Check Meter RJB 90452	0.2s	01-December-2019	30-November-2024
		Main Meter RJB 90453	0.2s	01-December-2019	30-November-2024
		Check Meter RJ B 90454	0.2s	01-December-2019	30-November-2024
Adani Green Energy (UP) Limited	Byadagi,Haveri, Karnataka	Main Meter 17115575	0.2s	10-Februray-2022 ³⁶	09-February-2027
		Check Meter 17115581	0.2s	10-Februray-2022 ³⁷	09-February-2027
	Chanapatana, Karnataka	Main Meter 16113303	0.2s	21-January-2021	20-January-2026
		Check Meter 16113423	0.2s	21-January-2021	20-January-2026
	Gubbi, Karnataka	Main Meter 17117830	0.2s	24-January-2020	23-January-2025
		Check Meter 17117909	0.2s	24-January-2020	23-January-2025
	Holenarasipura, Karnataka	Main Meter 17117831	0.2s	05-February-2020	04-February-2025
		Check Meter 17117835	0.2s	05-February-2020	04-February-2025
		Main Meter 17117797	0.2s	09-February-2021 ³⁸	08-February-2026

³⁴ Previously calibrated at the time of commissioning on 05-January-2018.

³⁵ Previously calibrated at the time of commissioning on 05-January-2018.

³⁶ Previously calibrated at the time of commissioning on 30-January-2018.

³⁷ Previously calibrated at the time of commissioning on 30-January-2018.

³⁸ Previously calibrated at the time of commissioning on 18-November-2017

Name of SPVs	Location	Meter Details	Accuracy Class of Meter	Date of Calibration	Due date of calibration
	Jewargi, Karnataka	Check Meter 17117798	0.2s	09-February-2021 ³⁹	08-February-2026
	K. R. Pet, Karnataka	Main Meter 17117852	0.2s	12-January-2022 ⁴⁰	11-January-2027
		Check Meter 17117857	0.2s	12-January-2022 ⁴¹	11-January-2027
	Malur, Karnataka	Main Meter 17115582	0.2s	16-October-2017	15-October-2022
		Check Meter 17115571	0.2s	16-October-2017	15-October-2022
	Magadi, Karnataka	Main Meter 17117800	0.2s	27-May-2019	26-May-2024
		Check Meter 17117801	0.2s	27-May-2019	26-May-2024
	Periyapatna, Karnataka	Main Meter 21004958 ⁴²	0.2s	28-Septemer-2021	27- September -2026
		Check Meter 21005086	0.2s	28-Septemer-2021	27- September -2026
	Ramanagara, Karnataka	Main Meter 17117842	0.2s	28-March-2018	27- March -2023
		Check Meter 17117863	0.2s	28-March-2018	27- March -2023
	T.Narasipura, Karnataka	Main Meter 17071202	0.2s	31-January-2020	30-January-2025
		Check Meter 17071210	0.2s	31-January-2020	30-January-2025
	Tiptur, Karnataka	Main Meter 16193103	0.2s	19-December-2018	18-December-2023
		Check Meter 15197803	0.2s	19-December-2018	18-December-2023

³⁹ Previously calibrated at the time of commissioning on 18-November-2017

⁴⁰ Previously calibrated at the time of commissioning on 22-December-2017

⁴¹ Previously calibrated at the time of commissioning on 22-December-2017

⁴² The main and check meters were replaced on 28-September-2021. Hence Calibration validity has been calculated from this date
Main Meter: Make: L&T; Accuracy Class: 0.2s; Check Meter: Make: L&T; Accuracy Class: 0.2s;

Name of SPVs	Location	Meter Details	Accuracy Class of Meter	Date of Calibration	Due date of calibration
Adani Green Energy (UP) Limited	Jhansi, Uttar Pradesh	Main Meter 17075544	0.2s	25-June-2021	24-June-2026 ⁴³
		Check Meter 17075556	0.2s	25-June-2021	24-June-2026 ⁴⁴

⁴³ The Main and Check Meter were changed after due calibration on 25 June 2021, accordingly validity has been changed to 24-June-2025. Details of the meters is as follows:

Main Meter: Sl. No.: 17075544; Make: L&T; Model: ER300P; Accuracy class: 0.2s; Check Meter: : Sl. No.: 17075556; Make: L&T; Model: ER300P; Accuracy class: 0.2s

⁴⁴ The Main and Check Meter were changed after due calibration on 25 June 2021, accordingly validity has been changed to 24-June-2025. Details of the meters is as follows:

Main Meter: Sl. No.: 17075544; Make: L&T; Model: ER300P; Accuracy class: 0.2s; Check Meter: : Sl. No.: 17075556; Make: L&T; Model: ER300P; Accuracy class: 0.2s

APPENDIX 2: MAJOR BREAKDOWN DETAILS

PLANTNAME	DATE	FAULTDESCRIPTION	TOTALBDHOURS
Pavagada-1	17-03-2021	String Open for Table Shifting for SAM Machine Purpose	4.17
Maskal	23-03-2021	DC STRING CABLE GROUNDED	4.17
Ramnagara	09-01-2021	String shut down due to dc cable damage	4.17
Pavagada-2	19-01-2021	35sqmm cable fault	4.17
Madhuvanhalli-1	16-01-2021	DC Cable Damage	4.17
Maskal	17-01-2021	35 SQ MM LT cable Ground Fault	4.17
Madhuvanhalli-2	21-01-2021	Dc cable damage	4.17
Madhuvanhalli-2	15-01-2021	Dc cable damage	4.17
Javergi	10-06-2021	dc cable cut inside inside conduit	4.17
Pavagada-2	01-06-2021	MH4 damaged at inverter side	4.17
Kallur- 40 MW	28-06-2021	Abnormal DC circuit	13.22
Kallur- 40 MW	28-06-2021	LIR Fault	13.22
Kallur- 40 MW	06-06-2021	LIR Fault	4.17
Kallur- 40 MW	03-06-2021	LIR Fault	4.17
Kallur- 40 MW	28-06-2021	3cX240 Sqmm LT Cable undergroundf earth fault	13.22
Rastapur	07-06-2021	DC Cable cut by rat & due to rain yesterday	13.38
Rastapur	06-06-2021	DC Cable cut by rat & due to rain yesterday	4.17
Ramnagara	15-04-2021	rectified	4.17
Pavagada-2	21-04-2021	Module fixed proprly	4.17
Madhuvanhalli-1	30-04-2021	Rectified	4.17
Pavagada-2	08-05-2021	DC Cable damaged due to rodent attack	4.17
Rastapur	18-07-2021	DC Cable cut by rat & due to rain yesterday	4.17
Madhuvanhalli-2	02-07-2021	MC4 REMOVED FILED SIDE	4.17
Kallur- 40 MW	15-08-2021	Underground cable damaged	4.17
Madhuvanhalli-2	22-08-2021	DC CABLE DAMAGED DUE TO RATEBITE	4.17

Bayadgi	18-09-2021	33kv AB Cable Line-01 End termination Insulation failure	4.17
Nalwar	14-09-2021	load restriction at 34 MW	4.17
Madhuvanhalli-2	20-09-2021	35sqmm cable problem	4.17
Gubbi	24-10-2021	String no. 1 DC cable sleeve damaged and grounded	4.17
Ramnagara	02-10-2021	DC cable damaged	4.17
Kallur- 40 MW	26-10-2021	String fault	4.17
Madhuvanhalli-1	24-10-2021	LOW INSULATION RESISTANCE	14.42
Madhuvanhalli-1	09-10-2021	LOW INSULATION RESISTANCE	4.17
Madhuvanhalli-2	17-10-2021	DC CABLE DAMAGE	4.17