



**Verified Carbon
Standard**

VERIFICATION REPORT

GROUPED ROOFTOP SOLAR PROJECT BY TATA POWER RENEWABLE ENERGY LIMITED



Report ID	2024 GQ CE 24
Project title	Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited
Project ID	VCS 3556
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Client	EKI Energy Services Ltd.
Prepared by	RINA Services S.p.A. (RINA)
Approved by	Giovanni D'ANGELO, (Authorized officer signing for the VVB)
Work carried out by	Team Leader, Verifier, Technical Expert (TA 1): Vinay Singh Team Members: B Rampratap & Ranjeet Joshi

Summary:

RINA Services S.p.A. (RINA) was contracted by M/s EKI Energy Services Limited to conduct verification of the project “Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited”, “VCS Project ID 3556 against VCS standard version 4.75/

The objective of the verification work is to comply with the requirements of Verified Carbon Standards requirements and ensure that the project activity has been implemented and operated as per the MR/1/, and that all physical features (technology, project equipment, and monitoring equipment of the project are in place. The monitoring methodology is used in accordance with the VCS methodology AMS.I. F “Methodology for Renewable Electricity Generation for captive use and Mini-grid,” Version 5.0 /4/. A site visit was performed to confirm the information provide by PP/8/.

The main purpose of this grouped project activity is to reduce GHG emission by installing Solar Photovoltaic (SPV) Panels on rooftops of different industries in various states of India by Tata Power Renewable Energy Limited (TPREL). All the rooftop and floating solar PV technology solar panel units involved in the project are implemented under RESCO model where TPREL acts as a RESCO (Renewable Energy Service Company). Being the RESCO, TPREL has developed, installed, financed, operates, and owns the rooftop solar power units and supplies power generated from the project to the consumers on whose premises the rooftop SPV panels are set up at Industries. Among 13 industries under project, the power is purchased by the only two industries (details given below) are either consumed by themselves or injected to the grid of the Distribution Utility under the net metering mechanism.

Tata Power Renewable Energy Limited (hereafter referred as “project proponent”) is installing these facilities (hereafter referred as “proposed project activity”) at various locations across India as a grouped project activity. Tata Power Renewable Energy Limited is looking forward to earn carbon credits under VCS mechanism for these SPVs installed at various industries. At the time of registration 13 instances had added and during the current monitoring period project proponent have added 13 more instances in the group project.

The estimated emission reduction as per registered JPDMR 15,171 tCO₂e/annum. As this is a grouped project activity PP has added new instances during current monitoring period. Thus, the total estimated emission reduction for the grouped project activity 74,230 (59,059+15,171) tCO₂e. A total of 519,610 tCO₂e GHG emission is estimated to reduce during the course of the seven-year crediting period. A total 39,343 tCO₂e GHG emissions were reduced over the second monitoring period from 1-May-2022 to 31-January-2024 (both days included).

RINA Services S.p.A. (RINA) now has enough proof to confirm that the stated criteria have been met after reviewing the monitoring report/2/, emission reduction sheets/3/ and additional documents pertaining to monitoring methodology, as well as after conducting background research, conducting follow-up interviews, and speaking with stakeholders and no uncertainties are involved.

Reviewing the monitoring report/2/ for the monitoring results and confirming that the monitoring methodology/4/ was applied in accordance with the monitoring plan and monitoring parameters which are the main goals of the verification. After reviewing the ER sheet/3/, it was confirmed that the reductions due to the anthropogenic emissions by sources are sufficient, conclusive, and presented in a clear and understandable way. In order to establish that the project has been implemented in line with registered project design/1/ and as specified, in the registered monitoring plan, monitoring report/2/, ER sheet/3/, and the project's compliance with relevant VCS/5/, UNFCCC/6/, and host party criteria were specifically checked.

Verification of project implementation and operation in accordance the monitoring report/2/, implemented monitoring plan with the as reported in the monitoring report/2/, and applied baseline & monitoring methodology AMS.I. F, version 5.0/4/ were all included in the scope of the verification. It was also verified that the actual monitoring systems and procedures are adhered to, as per the monitoring systems and procedures outlined in the monitoring plan. Identification of any substantial inaccuracies in the stated GHG emission reduction estimations and articulating a conclusion with a fair degree of assurance was part of the assessment.

It is confirmed by the assessment team that the stated GHG emission data is appropriately supported by evidence.

This verification has been carried out using a risk-based methodology. 08 Corrective Action Requests (CARs) and 02 Clarification Requests (CRs) were raised during verification and successfully closed. FAR was not raised during this verification period.

The project has been successfully verified, and further certified for emission reductions under VCS as it meets the criteria outlined by the MR template version 4.3/5/, the VCS Standard version 4.7/5/, and the applied methodology AMS.I. F, Version 5.0/4/.

Our view refers to the projects' claimed GHG emissions, GHG emission reductions as a result, and to the project's legitimate baseline, monitoring, and supporting documents. Based on the information viewed and assessed, we confirm that the project activity " Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited " achieved emission reductions by 39,343 tCO₂e from 01-May-2022 to 31-January-2024 (both days included).

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1 INTRODUCTION

1.1 Objective

RINA Services S.p.A. (RINA) has been contracted by Tata Power Renewable Energy Limited., (project proponent), to undertake the verification of the project titled “Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited” VCS project ID 3556. The assessment team have reviewed the GHG data collected for the monitoring period from 01-May-2022 to 31-January-2024 (both days included) covered in this verification. The objective of the verification is to have an independent third-party assessment of the monitoring report/2/ and supporting documentation to ensure compliance with the rules, regulations and guidelines by CDM and VCS requirements. In particular;

- The project's baseline is assessed against “AMS.I. F Renewable Electricity Generation for captive use and Mini-grid, Version 5.0”/4/
- The projects compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS standard version 4.7 /5/
- CDM project standard for project activities Version 03.0/6(a)/
- CDM project cycle procedure for project activities Version 03.0 /6(b)/
- VCS standard v4.7 /5(b)/
- VCS program guide v4.4 /7(a)/

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified carbon units (VCUs).

1.2 Scope and Criteria

The scope of the verification was the independent and objective review and ex-post determination of the monitored reductions in GHG emissions from “Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited” VCS project ID 3556. The verification of this project was based on the monitoring report and supporting documents submitted by the project proponent to the verification team. The documents were reviewed against the following guidance and protocols:

- VCS Program Guide (v4.4, dated 29-August-2023)/5(a)/
- VCS Standard (v4.7, dated 16-April-2024)/5(b)/
- VCS Program Definitions (v4.4, dated 29-August-2023)/5(c)/
- VCS Registration & Issuance Process (v4.4, dated 4-October-2023)/5(d)/
- VCS approved methodology AMS.I.F. (version 5.0, dated 08/09/2022)/4/

The verification is not meant to provide any consulting towards the client. However, stated request for clarifications and/or corrective actions may provide input for improvement of the project design. The verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. There are no material errors, overestimation of ER, omission or misstatement.

1.3 Level of Assurance

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors.

The validation team and technical reviewers consist of the following personnel:

Role	Last Name	First Name	Country
Team Leader, Verifier & Technical Expert TA 1.1	Singh	Vinay	India
Team Member (Verifier)	Joshi	Ranjeet	India
Team Member (Verifier)	B	Rampradap	India

1.4 Summary Description of the Project

The project involves installation of Solar Photovoltaic (SPV) Panels on rooftops in various states of India. The sole purpose of project activity is to install solar power plant for captive purpose and surplus generated electricity can be supplied to grid and further equivalent energy will be consumed from grid through net metering arrangement with state electricity board

Under the concept of Net Metering, the customers are charged only for the net power that they consume from the electricity service provider that has accumulated over a specific period. In other words, if their renewable energy generating systems make more electricity than consumed, they may be credited or paid for the excess electricity contributed to the grid over the same period. Net metering is also a way to increase the energy in the power grid to keep up with increase in demand during peak power use times, and this is of particular interest to states facing power shortages.

As per para 3.5.14 of VCS Standard V.4.7, each project activity instance of grouped project activity is less than 15 MW capacity. Thus, small scale methodology AMS I.F is applicable for proposed grouped project activity.

The details of project capacity and location details for all the project instances are as follows:

S.I No.	Customer	Installed DC Capacity (kWp)	Longitude	Latitude	City	State
1	Tinplate Company of India Limited	200.64	22.7936	86.2295	Jamshedpur	Jharkhand
2	Duraline India Private Limited	980	17.1699	78.2926	Hyderabad	Telangana
3	GE T&D India Limited, Hosur	832	12.7532	77.8098	Hosur	Tamil Nadu
4	Arya Anathalay I	80	28.5558	77.2558	Delhi	Delhi
5	Time of India, Airoli	186.9	19.1643	73.0017	Airoli	Maharashtra
6	Asian Paints Limited	451	19.0593	73.1221	Mumbai	Maharashtra
7	Time of India, Kolkata	226.95	22.5748	88.4266	Kolkata	West Bengal
8	TATA Lockheed Martin Aerostructures Limited	999.6	17.2292	78.5523	Hyderabad	Telangana
9	TSPDCL, Demag	318	22.7703	86.2198	Jamshedpur	Jharkhand

10	Apollo Gleneagles Hospital Limited	335	22.5739	88.4011	Kolkata	West Bengal
11	Tata Metaliks Limited	1059	22.3845	87.2849	Kharagpur	West Bengal
12	Arya Anathalay II	202.29	28.5575	77.2554	Delhi	Delhi
13	Tata Motors Limited (Car Plant)	6250	18.6578	73.8207	Pimpri	Maharashtra

This is a grouped project activity, So PP has added some new instances during this monitoring period.

The details of the newly added instances mentioned below:

SL No	Customer		Installed AC Capacity (MW)	Latitude (N)	Longitude (E)	City	State
1.	Tata Steel Limited (Odisha)	TSK Steelanium	6.880	20.97111	85.997	Kalinganagar	Odisha
		TSK SMS		20.967033	86.016355		
		TSK MWTP		20.972121	86.021182		
		TSK HSM E/W		20.966446	86.022274		
		TSK HSM N/S		20.966956	86.032433		
2	Tata Steel Limited (Odisha)	TSK RWR	7.50	20.978813	86.016628	Kalinganagar	Odisha
3	Tata Steel Limited (Jharkhand)	TSL CWH	4.920	22.775792	86.190468	Jamshedpur	Jharkhand
		TSL WRM		22.782784	86.198012		
		TSL CRM		22.78768	86.21301		
		TSL, HSM		22.78240	86.205644		

4	Tata Steel Limited (Jharkhand)	TSL UCP	7.50	22.792039	86.191514	Jamshedpur	Jharkhand
5	Tata Electronics Private Limited	Assembly building 1	7.12	12.552329	77.950999	Hosur	Tamil Nadu
		DM plant		12.552291	77.952597		
		BMB 1 Building		12.551173	77.952545		
		BMB 2 Building		12.549523	77.952576		
		Ano building		12.550885	77.951003		
6	Kejirawal Castings Limited		1.418	22.63924	88.29996	Kolkata	West Bengal
7	The Tinplate Company of India Limited- Ph-02		1.10	22.795258	86.234222	Jamshedpur	Jharkhand
8	Mplastics Toys & Engineering Private Limited		0.996	12.667694	77.805139	Hosur	Tamil Nadu
9	ZF Rane Automotive India Private Limited (Virmalai)		0.850	10.632844	78.570897	Chennai	Tamil Nadu
10	ZF Rane Automotive India Private Limited (Gudvancherry)		0.702	12.835169	80.052394	Chennai	Tamil Nadu
11	Tata BlueScope Steel Private Limited		1.426	22.816354	86.235986	Jamshedpur	Jharkhand
12	Rane Madras Limited		0.760	11.923741	79.647083	Pondicherry	Tamil Nadu
13	Premium Transmission Private Limited		0.480	19.870431	75.503808	Aurangabad	Maharashtra

Sl. No	Customer	Installed Capacity (KW)		Date of Commissioning	Technology	Primary Purpose	Net Metering
		DC (MWp)	AC (MW)				

1	Tata Steel Limited (Odisha)	TSK Steelanium	0.510	0.480	6.880	Upcoming	Rooftop	Third party use	No
		TSk SMS	1.670	1.200		Upcoming	Rooftop	Third party use	No
		TSK MWTP	1.050	0.800		Upcoming	Rooftop	Third party use	No
		TSK HSM E/W	3.300	2.600		Upcoming	Rooftop	Third party use	No
		TSK HSM N/S	2.500	1.800		Upcoming	Rooftop	Third party use	No
2	Tata Steel Limited (Odisha)	TSK RWR	10.1	7.500		Upcoming	Floating	Captive	No
3	Tata Steel Limited (Jharkhand)	TSL CWH	2.282	1.280	4.920	21-September-2022	Rooftop	Third party use	No
		TSL WRM	1.175	1.000		29-December-2022	Rooftop	Third party use	No
		TSL CRM	2.007	1.200		Upcoming	Rooftop	Third party use	No
		TSL, HSM	2.448	1.440		23-March-2023	Rooftop	Third party use	No
4	Tata Steel Limited (Jharkhand)	TSL UCP	10.785	7.500		Upcoming	Third party use	Captive	No
5	Tata Electronics Private Limited	Assembly building 1	0.242	1.760	7.120	Third party use	Rooftop	Captive	No
		DM plant	0.640	0.480		Third party use	Rooftop	Captive	No
		BMB 1 Building	2.225	1.760		Third party use	Rooftop	Captive	No

		BMB 2 Building	2.420	1.760		Third party use	Rooftop	Captive	No
		Ano building	1.794	1.360		Third party use	Rooftop	Captive	No
6	Kejirawal Castings Limited		1.418	1.26	30-January-2024	Rooftop	Third party use		No
7	The Tinsplate Company of India Limited- Ph-02		1.10	0.892	31-December-2022	Rooftop	Third party use		No
8	Mplastics Toys & Engineering Private Limited		0.996	0.77	Under Commissioning	Rooftop	Third party use		No
9	ZF Rane Automotive India Private Limited (Virmalai)		0.850	0.69	10-January-2024	Rooftop	Third party use		No
10	ZF Rane Automotive India Private Limited (Gudvancherry)		0.702	0.56	18-January-2024	Rooftop	Third party use		No
11	Tata BlueScope Steel Private Limited		1.783	1.426	05-May-2022	Rooftop	Third party use		Yes
12	Rane Madras Limited		0.974	0.760	13-June-2013	Rooftop	Third party use		Yes
13	Premium Transmission Private Limited		0.687	0.480	23-January-2023	Rooftop	Third party use		Yes

The project results in a total emission reduction of 39,343 tCO₂e over the monitoring period of 01-May-2022 to 31-January-2024.

The technical details are provided below;

Specifications of PV modules:

Parameters	Data			
Make of solar modules	Yingli Solar			
Power Output at STC (Pmax)	305 Wp	310 Wp	320 Wp	330 Wp
Module Efficiency η_m (%)	15.7	15.9	16.5	17.0
Voltage at Pmax (Vmpp)	36.1 V	36.3 V	37.0 V	37.4 V
Current at Pmax (Impp)	8.45 A	8.53 A	8.64 A	8.84 A
Operating temperature	-40 °C to +85 °C			
Frame material	Anodized Aluminum Alloy			
Dimensions (L/W/H)	1960 mm/ 992 mm/ 40 mm			
Weight of the module	22 kg			

Maximum system voltage	1000 VDC
Lifetime of the modules	25 years
Certifications	IEC 61215, IEC 61730 & ISO 14001:2004

Specifications of Inverters:

Parameters	Data	
Make of the inverter	Goodwe	
Nominal AC output power (PAC)	50 kW	60 kW
Maximum PV Power (W)	65000	80000
Nominal DC Power (W)	51500	62000
Max. DC voltage (V)	1000	1000
MPPT Voltage range (V)	200~850	200~850
MPPT Voltage range for full load (V)	520~850	520~850
Nominal DC Voltage (V)	620	620
Starting Voltage (V)	200	200
AC Output Range	45~55Hz/55~65Hz; 310~480Vac	
Maximum Efficiency	98.7%	98.8%
Dimensions (W*H*D)	586 mm*788 mm*264 mm	
Weight (kg)	59	64
Standard Warranty (years)	5/10/15/20/25 (optional)	
Maximum operating altitude	4000m	4000m
Safety Standard	EN62109-1&-2	
Communication	RS485; WiFi	RS485; WiFi

Technical specifications of all the new instances are as follows:

Sl.No	Customer		Installed Capacity (MW)		PV Modules	Inverters
			DC	AC		
1	Tata Steel Limited (Odisha)	TSK Steelanium	0.510	6.880	950 nos. (540 Wp each) Manufactured by Jinko Solar	6 nos.(80 KW each) Manufactured by GoodWe
		Tsk SMS	1.670		3,124 nos. (540 Wp each) Manufactured by Jinko Solar	6 nos.(200 KW each) Manufactured by Sungrow
		TSK MWTP	1.050		1,948 nos. (540 Wp each) Manufactured by Jinko Solar	4 nos.(200 KW each) Manufactured by Sungrow
		TSK HSM E/W	3.330		6,178 nos. (540 Wp each) Manufactured by Jinko Solar	13 nos.(200 KW each) Manufactured by Sungrow
		TSK HSM N/S	2.50		4,686 nos. (540 Wp each)	9 nos.(200 KW each)

					Manufactured by Jinko Solar	Manufactured by Sungrow
2	Tata Steel Limited (Odisha)	TSK RWR	10.10	7.50	6,552 nos. (530 Wp each) 7,616 nos. (535 Wp each) 4,707 nos. (540 Wp each) Manufactured by Jinergy	2 nos.(3750 KW each) Manufactured by TBEA
3	Tata Steel Limited (Jharkhand)	TSL Jamshedpur CWH	2.282	4.920	4,188 nos. (545 Wp each) Manufactured by Jinko Solar	8 nos.(200 KW each) Manufactured by GoodWe
		TSL Jamshedpur WRM	1.175		2,155 nos. (545 Wp each) Manufactured by Jinko Solar	5 nos.(200 KW each) Manufactured by GoodWe
		TSL Jamsedpur CRM	2.007		3,174 nos. (545 Wp each) Manufactured by Jinko Solar	6 nos.(200 KW each) Manufactured by Sungrow
		TSL_HSM	2.448		4,492 nos. (545 Wp each) Manufactured by Jinko Solar	9 nos.(200 KW each) Manufactured by GoodWe
4	Tata Steel Limited (Jharkhand)	TSL UCP	10.785	7.50	20,130 nos. (535 Wp each) Manufactured by Jinergy Solar	2 nos.(3,750 KW each) Manufactured by Sungrow
5	Tata Electronics Private Limited	Assembly building 1	2.42	7.08	5,440 nos. (445 Wp each) Manufactured by Jinergy	22 nos.(80 KW each) Manufactured by Solis
		DM plant	0.640		1,440 nos. (445 Wp each) Manufactured by Jinergy	6 nos.(80 KW each) Manufactured by Solis
		BMB 1 Building	2.225		5,440 nos. (450 Wp each) Manufactured by Jinergy	22 nos.(80 KW each) Manufactured by Solis
		BMB 2 Building	2.420		5,440 nos. (445 Wp each) Manufactured by Jinergy	22 nos.(80 KW each) Manufactured by Solis

		Ano building	1.794		4,042 nos. (445 Wp each) Manufactured by Jinergy	17 nos.(80 KW each) Manufactured by Solis
6	Kejirawal Castings Limited		1.418	1.26	257 nos. (545 Wp each) Manufactured by Tata Power Solar	6 nos.(60 KW each) 12 nos.(80 KW each) Manufactured by Solis
7	Tata Tinplate Ph-2		1.10	0.892	3,335 nos. (330 Wp each) Manufactured by Tata Power Solar	4 nos.(80 KW each) 7 nos.(60 KW each) 2 nos.(36 KW each) 1 nos.(50 KW each) 1 nos.(30 KW each) Manufactured by GoodWe
8	Mplastics Toys & Engineering Private Limited		0.996	0.77	1,831 nos. (545 Wp each) Manufactured by Tata Power Solar	9 nos.(80 KW each) 1 nos.(50 KW each) Manufactured by Solis
9	ZF Rane Automotive India Private Limited (Virmalai)		0.850	0.69	1,575 nos. (540 Wp each) Manufactured by Tata Power Solar	5 nos.(80 KW each) 4 nos.(60 KW each) 1 nos.(50 KW each) Manufactured by Solis
10	ZF Rane Automotive India Private Limited (Gudvancherry)		0.702	0.56	1,301 nos. (540 Wp each) Manufactured by Tata Power Solar	3 nos.(80 KW each) 2 nos.(60 KW each) 4 nos.(50 KW each) Manufactured by Solis
11	Tata BlueScope Steel Private Limited		1.783	1.426	3,936 nos. (450 Wp each) Manufactured by Tata Power Solar	9 nos.(80 KW each) 6 nos.(60 KW each) 3 nos.(50 KW each)

					Manufactured by GoodWe
12	Rane Madras Limited	0.974	0.760	1,804 nos. (540 Wp each) Manufactured by Waree Solar	5 nos.(80 KW each) 6 nos.(60 KW each) Manufactured by Solis
13	Premium Transmission Private Limited	0.687	0.480	1,262 nos. (545 Wp each) Manufactured by Tata Power Solar	6 nos.(80 KW each) Manufactured by Tata Power Solar

Above mentioned technical details are checked with the Manufacturer's Technical specification, and found correct. Same is confirmed during the assessment.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The procedures used by RINA Services S.p.A. (RINA) for verification were carried out in accordance with the requirements stated in the VCS standard requirements/5/, the most recent version of the CDM validation and verification standard VVS/6/, and pertinent decisions of the COP/MOP and the CDM EB while using standard auditing techniques.

The intended implementation and operation of the project activity, as well as the actions done to report emission reductions, must be evaluated, and decided to conform with the criteria and pertinent instructions issued by the VCS Board. The following three steps make up the verification procedure;

- A documentation review of the MR/2/, ER sheet/3/.
- Conduct meeting with and subsequent interviews with project stakeholders.
- The completion of outstanding issues and the issuance of the final report and opinion.

2.2 Document Review

As described in detail in appendix 2 of this document, the verification is largely carried out as a document review of the registered VCS joint PD&MR/1/, and related evidences. Using a RINA Services S.p.A. (RINA) quality procedures, the verification team conducted the evaluation by cross-referencing data from MR with data from additional sources, if available, with the team's sectoral or local knowledge, and, if necessary, independent background checks.

2.3 Interviews

The evaluation team has conducted an on-site verification. The table includes information on the interviewees.

The following persons from the project proponent are interviewed during the course of verification.

S.I No	Name of Associates	Designation	Company
1	Prashant Kumar Tiwari	Group Head - Carbon Asset Mgmt	Tata Power Company Limited
2	Satheesh Kumar	Site In charge	Tata Power Renewable Energy Limited
3	Biswajit Mandal	Lead Engineer	Tata Power Renewable Energy Limited
4	Saylee Patil	Manager	Tata Power Renewable Energy Limited
5	Saroj Sahoo	General Manager	EKI Energy Services Ltd
6	Shital Patil	Senior Executive	EKI Energy Services Ltd
7	Md Meraj Ali	Executive	EKI Energy Services Ltd

The topics discussed during the interview range from the project's general characteristics and implementation to its technical details, including design and technical specifications, project implementation status, project start date, location, baseline identification. The evaluation was created using the interview input together with the analysis of registered joint PD&MR/1/, and observations.

2.4 Site Visits

The verification team visited the project sites on the following days:

Existing Project activity instances (physical/remote):

S.I No.	Customer	Location	Audit date	Team member conducted the audit
1	Tinplate Company of India Limited	Jamshedpur, Jharkhand	10-April-2024 (remote)	Vinay Singh
2	Duraline India Private Limited	Hyderabad, Telangana	11-April-2024 (remote)	Vinay Singh
3	GE T&D India Limited, Hosur	Hosur, Tamil Nadu	11-April-2024 (remote)	Vinay Singh
4	Arya Anathalay I	Delhi	24-April-2024 (physical)	Vinay Singh
5	Time of India, Airoli	Airoli, Maharashtra	11-April-2024 (remote)	Vinay Singh
6	Asian Paints Limited	Mumbai, Maharashtra	11-April-2024 (remote)	Vinay Singh
7	Time of India, Kolkata	Kolkata, West Bengal	27-April-2024 (Physical)	Ranjeet Joshi
8	TATA Lockheed Martin Aerostructures Limited	Hyderabad, Telangana	11-April-2024 (remote)	Vinay Singh

9	TSPDCL, Demag	Jamshedpur, Jharkhand	10-April-2024 (remote)	Vinay Singh
10	Apollo Gleneagles Hospital Limited	Kolkata, West Bengal	27-April-2024 (physical)	Ranjeet Joshi
11	Tata Metaliks Limited	Kharagpur, West Bengal	10-April-2024 (remote)	Vinay Singh
12	Arya Anathalay II	Delhi	24-April-2024 (physical)	Vinay Singh
13	Tata Motors Limited (Car Plant)	Pimpri, Maharashtra	11-April-2024 (remote)	Vinay Singh

Newly added project activity instances (Physical):

SL No	Activity Instances		Location	Site visit date	Team member conducted the visit
1.	Tata Steel Limited (Odisha)	TSK Steelanium	Kalinganagar, Odisha	27-April-2024	Vinay Singh
		TSK SMS			
		TSK MWTP			
		TSK HSM E/W			
		TSK HSM N/S			
2	Tata Steel Limited (Odisha)	TSK RWR	Kalinganaga, Odisha	27-April-2024	Vinay Singh
3	Tata Steel Limited (Jharkhand)	TSL CWH	Jamshedpur, Jharkhand	28-April-2024	Vinay Singh
		TSL WRM			
		TSL CRM			
		TSL, HSM			
4	Tata Steel Limited (Jharkhand)	TSL UCP	Jamshedpur, Jharkhand	28-April-2024	Vinay Singh
5	Tata Electronics Private Limited	Assembly building 1	Hosur, Tamil Nadu	27-April-2024	B.Rampradap
		DM plant			
		BMB 1 Building			
		BMB 2 Building			
		Ano building			
6	Kejirawal Castings Limited		Kolkata, India	27-April-2024	Ranjeet Joshi
7	The Tinsplate Company of India Limited- Ph-02		Jamshedpur, Jharkhand	28-April-2024	Vinay Singh
8	Mplastics Toys & Engineering Private Limited		Hosur, Tamil Nadu	27-April-2024	B.Rampradap
9	ZF Rane Automotive India Private Limited (Virmalai)		Chennai, Tamil Nadu	27-April-2024	B.Rampradap
10	ZF Rane Automotive India Private Limited (Gudvancherry)		Chennai, Tamil Nadu	27-April-2024	B.Rampradap
11	Tata BlueScope Steel Private Limited		Jamshedpur, Jharkhand	28-April-2024	Vinay Singh
12	Rane Madras Limited		Pondicherry, Tamil Nadu	26-April-2024	B.Rampradap

13	Premium Transmission Private Limited	Aurangabad, Maharashtra	25-April-2024	Ranjeet Joshi
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This is to be noted that the project has already undergone the 1st periodic verifications post its validation during when the initial 13 project activity instances were added.

As per section 4.1.12 of the VCS standard, version 4.7/5/,

A site visit that includes a visit to facilities and/or project areas shall be conducted at verification under the following circumstances:

- 1) The first verification of the project after validation;
- 2) Verifications that include project baseline reassessments; and
- 3) Verifications that assess a project description deviation where the deviation impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

Therefore, since this is the 2nd periodic verification for the already included (existing) project activity instances, physical site audit has not been conducted for all the existing project activity instances.

However, the verification team had conducted a remote site inspection through google meet video call and interviewed the site persons and the consultant on the above-mentioned dates. The verification team had asked about the project details and understood the operation procedure during interview with the site staffs, remotely observed the plant and machineries to the extent possible through video call during the remote audit. Moreover, the equipment and energy meters photographs/7/, log sheets, generation statements and invoices submitted by the project proponent were reviewed thoroughly by the verification team and found that the project has been operating with all its monitoring system in place as per the registered VCS PD/1/.

Thus, the verification team thus comes to a conclusion that there is no risk of material misstatement or nonconformity identified during the verification process and not conducting physical site visit of the existing project activity instances has not impacted the independent risk assessment of the project.

The verification team had performed the following tasks during site visit for all the newly added project activity instances:

- A review of information flows for generating, aggregating, and reporting the monitoring parameters;
- Interviews with relevant personnel to ascertain whether the operational and data collection procedures are carried out in accordance with the monitoring plan in the registered VCS Joint PD and MR/1/;
- A cross check of the information collected during the above-mentioned processes.
- A review of the calculations and presumptions used to calculate the GHG data and emission reductions;

- A determination of the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.
- In order to decrease audit risk to an acceptable low level and to obtain a fair degree of certainty for the current verification, the assessment team has verified adequate appropriate audit evidences.

2.5 Resolution of Findings

The goal of this step is to identify, discuss, and draw conclusions about any problems that may affect the registered project activity's ability to reduce emissions or have an impact on the recording, monitoring, and reporting of those reductions. These problems may be related to the monitoring parameters and monitoring plans, implementation status, or operations of the registered project activity. Based on the desk review and site evaluation, this was carried out. The verification team creates and/or maintains verification procedures (internal document) that documents conformities and non-conformities, which may include the following kinds of issues:

If one of the following occurs, a CAR (Corrective Action Request) is raised:

- the project participants have not adequately recorded their non-compliance with the project description, the monitoring methodology and its tools are not applicable, the additionality instruments are not sufficient, or the evidence provided to demonstrate conformity is insufficient;
- If the project participants have not appropriately recorded any non-conformance with the monitoring plan, methodology, or standard baseline when monitoring and reporting is performed, or if there is insufficient evidence to support conformity;
- The project participants have not appropriately documented changes to the implementation, operation, and monitoring of the registered project activities;
- The quantity of emission reductions will be impacted by errors in the application of assumptions, data, or computations;
- The project participants have not addressed problems identified in a FAR during validation that need to be confirmed during verification or in a prior verification.

If there is inadequate or unclear information to assess if the relevant CDM standards have been satisfied, a clarification request (CL) is made. Prior to submitting a request for registration and issuance, any CAR and CL that the RINA Services S.p.A. (RINA) raised during validation and verification must be addressed.

08 Corrective Action Requests (CARs) and 02 Clarification Requests (CL) were raised during verification and successfully closed. FAR was not raised during this verification period.

Appendix 4 contains all the findings that are brought forward and shared with project participants during the verification. The section also covers the project participants' responses, if any, and the verification team's evaluation subsequently for any open findings.

2.5.1 Forward Action Requests

The project activity is undergoing Verification under VCS, and no FAR issues have been raised.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification, as RINA Services S.p.A. (RINA) holds the accreditation for Validation of projects under this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

This project did not apply any methodology deviations related to Project Description.

3.2 Project Description Deviations

As per registered JPDMR section no 1.4 eligibility criteria 4 stated the project activity instances to be included in the grouped project activity will be Greenfield activities involving renewable electricity generation power plants (captive use) using solar technology. But as per actual scenario the newly added stances involved in the project activity is are selling to third party consumer. Thus, the deviation is requested to include third party consumption project also, in the grouped project activity. The same changed also be done on the section 3.3 of the monitoring report. This change does not have any impact on project design, baseline, scale of project and additionally assumptions and hence accepted by validation team.

3.3 New Project Activity Instances in Grouped Projects

New project activity instances are included under this grouped project during the current monitoring period. The following table demonstrates how the new project activity instances being included in the grouped project activity fulfil above mentioned eligibility conditions:

Sr. No.	Eligibility Criteria	Project Activity instances eligibility	VVB Assessment
1	Applicability Conditions: The project activity	All the new instances in this project activity meet applicability	All the new instances involved are capacity less

	instances shall meet applicability conditions for applicable methodology (AMS I.F version 5.0) as defined in section 3.2	conditions of methodology (AMS I.F Version 5.0 (project activity instances having capacity less than 15 MW), hence this eligibility criteria are fulfilled.	than 15 MW thus fulfil the requirement.
2	Geographical Area: The project activity instances to be included in the grouped project activity will be activities involving Renewable Electricity Generation for captive use and Mini-grid using solar technology located within India.	All project activity instances being included in the grouped project are located within geographic boundaries of India. Hence this condition is fulfilled. Please refer commissioning certificate for geographical area of project activity.	All the instances involved are within geographical binaries of India. thus fulfil the requirement.
3	Baseline scenario: All Project Activity Instances shall meet the baseline definition as defined in respective methodology and as explained in section 3.4	As per section 3.4 of the registered JPDMR, the project activities that displace electricity consumed from the electric grid and from a fossil fuel fired on-site captive power plant, the baseline emission factor shall reflect the emissions intensity of the grid and the captive power plant in the baseline scenario, All the new instances added in this project activity during current monitoring period have followed the same baseline scenario as mentioned in registered JPDMR. Hence this eligibility criterion is fulfilled.	All the new instances in this project activity have same baseline. Hence this eligibility criterion is fulfilled.
4	Technology type: The project activity instances to be included in the grouped project activity will be Greenfield activities involving Renewable Electricity Generation for captive use and Mini-grid using solar PV technology. The electricity should be supplied to grid, or to third party or to be used for captive purpose etc.	All project activity instances are solar PV power plants (i.e., Renewable Electricity Generation) supplying electricity for mini grid or captive/third party use. The details of the technology type have been included section 3.3 of the monitoring report. Also, All the new instances are green field projects. Hence this condition is fulfilled.	All the instances involved are of same technology i.e., Greenfield Solar SPVs thus fulfil the requirement.
	Additionality: The project activity instances to be added as part of the grouped project will meet additionality criteria as set out in respective methodologies - for Small	The additionality for the all-project activity instances included in the grouped project has been demonstrated in subsequent sections of the monitoring report.	The project proponent has demonstrated the additionality of the new project activity instances in line with registered joint PD & MR and joint validation & verification report/1/. The

	Scale Project instances the methodology applicable will be AMS-I.F.		detail assessment on the same is incorporated in appendix 5 of the report.
6	Start Date: The start date of each project activity instance under the grouped project should not be prior to the start date of the grouped project. The start date of each project activity instance will be determined through documentary evidence.	The start date of grouped project is considered as the earliest commissioning date (i.e., 01-October-2020) of project activity instance and start date of all other new instances is after this date. Please refer commissioning certificate for start date of grouped project activity.	Start date of all instances are after 01-October-2020 thus fulfils the requirement. Moreover, all the new activity instances added by the project proponent are applied for validation within 2 years of the project activity instance start date which meets the requirement defined vide 3.6.18 of the project standard. The verification team has checked/18/ the commissioning certificates of the newly added project activity instances and confirmed the same.
7	Conditions that avoid double Counting of emission reductions like unique identifications of project and claiming emission reduction only under one GHG program.	The existing and new project activity instances are identified by latitude and longitude and location of the plant. Also, declaration has been provided and these project activity instances are not participating in any other GHG program. Hence this condition is fulfilled.	Unique locations of the instances are provided in the MR and PP have also submitted declaration/9/ for avoidance of double counting of the emission reductions achieved. Thus fulfils the requirement.
8	The Grouped Project specific requirements stipulated by the Entity responsible for coordinating and managing grouped project for conducting local stakeholder consultations and environmental impact assessment (EIA), as applicable.	Local stakeholder consultation has been conducted as a part of grouped project activity There is no requirement for carrying out EIA for these projects in India, hence this condition is fulfilled.	PP have conducted LSC meetings and details of the same are provided in validated Joint PD & MR/1/. Thus fulfils the requirement.
9	The project activity using solar PV project will supply electricity to grid or to users through grid network or in house captive use.	The existing and new project activity instances are solar PV power plants supplying electricity to grid or user or in house captive use. Hence this condition is fulfilled.	Solar PV projects generating electricity primarily to their captive consumption even though the project is grid connected for net metering (if any electricity surplus during low in-house demand will be injected to grid). Thus, the main purpose is the delivery to the captive consumer.

The applicability conditions of the approved methodology AMS I.F., Version 5.0, Sectoral Scope 1, are justified below-

Applicability Condition of AMS I F Ver. 5	Project activity vis-à-vis applicability Conditions	VVB Assessment
This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). The project activity will displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit i.e., in the absence of the project activity, the users would have been supplied electricity from one or more sources listed below: a. A national or a regional grid (grid hereafter); b. Fossil fuel fired captive power plant; c. A carbon intensive mini-grid	The project activity instances comprise of renewable electricity generation using solar energy units which supply power to the user(s). The solar plant unit is located at the respective rooftop and floating of the mentioned site at the subsequent section. The project activity will displace electricity from INDAN Grid, which is supplied by predominantly fossil fuel plants. Out of the 13 project activity instances, 3 instances are connected to the grid through net metering & all the project instances will lead to replacement of equivalent quantum of fossil fuel dominated grid power. Hence, the project activity instances follow this applicability conditions.	Verification team assessed that project activity instances comprise of renewable electricity generation using solar energy units which supply power to the user(s). The solar plant unit is located at the respective rooftop of the mentioned site at the subsequent section. The project activity will displace electricity from INDAN Grid, which is supplied by predominantly fossil fuel plants. Out of the 13 project activity instances, 3 instances are connected to the grid through net metering & all the project instances will lead to replacement of equivalent quantum of fossil fuel dominated grid power. Hence, it concludes that applicability condition is met by project activity.
Illustration of respective situations under which each of the methodology (AMS-I.D., AMS-I.F. and AMS-I.A.) applies is included in Table 3.	The project activity applies methodology AMS I.F and the detailed scenario has been explained after end of this table.	Verification team has assessed that project activity satisfy requirement of option 2 of Table 1. Hence, it concludes that applicability condition is met by proposed project activity.

Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: a. The project activity is implemented in an existing reservoir with no change in the volume of reservoir; b. The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m² c. The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m².	Project activity instances does not include hydro power generation.	Verification team has assessed that project activity is utilizes solar power technology. it concludes that applicability condition is not applicable to this proposed project activity.
This methodology is applicable for project activities that: a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); b) Involve a capacity addition, c) Involve a retrofit of (an) existing plant(s); or d) Involve a replacement of (an) existing plant(s).	All project activity instances are installation of greenfield power plants. Hence the condition (a) justifies by the project activity instances. For future project activity instances, option b, c and d may be applicable and applicability will be justified for each project activity instance.	Verification team assessed that project activity instances are installation of greenfield power plants. Hence the condition (a) justifies by the project activity instances. Hence, it concludes that applicability condition is met by project activity.
In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Project instances are not capacity addition. All instances are green field installation. If any project activity instance involves any capacity addition, then total capacity of each project activity instance is less than 15 MW.	Verification team assessed that the project instances are not capacity addition. All instances are green field installation. If any project activity instance involves any capacity addition, then total capacity of each project activity instance is less than 15 MW. Hence, it concludes that applicability condition is not applicable to this proposed project activity.

In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	This Project activity instances are not a retrofit or replacement of existing project activity. If any project activity instance involves any retrofit or replacement, then total capacity of each project activity instance is less than 15 MW	Verification team assessed that the Project activity instances are not a retrofit or replacement of existing project activity. If any project activity instance involves any retrofit or replacement, then total capacity of each project activity instance is less than 15 MW. Hence, it concludes that applicability condition is not applicable to this proposed project activity.
If the unit added has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The project activity instances do not have a non-renewable component. Hence this section is not applicable	The project activity instances do not have a non-renewable component. Hence, it concludes that applicability condition is not applicable to this proposed project activity.
Combined heat and power (co-generation) systems are not eligible under this category.	The project activity instances do not involve with co-generation. Hence this section is not applicable	The project activity instances do not involve with co-generation. Hence, it concludes that applicability condition is not applicable to this proposed project activity.
If electricity and/or steam/heat produced by the project activity is delivered to a third party, i.e. another facility or facilities within the project boundary, a contract between the supplier and consumer(s) of the energy will have to be entered that ensures that there is no double counting of emission reductions.	Every project activity instance having a contractual agreement between supplier and consumers in order to specifically avoid double counting.	Verification team assessed that the every project activity instance having a contractual agreement between supplier and consumers in order to specifically avoid double counting. Hence, it concludes that applicability condition is met by project activity.

In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	The project activity instances do not involve with biomass usage. Hence this section is not applicable	The project activity instances do not involve with biomass usage. Hence, it concludes that applicability condition is not applicable to this proposed project activity.
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Differentiation amongst applicability of AMS – I.A, AMS-I. D and AMS- I.F

Sr. No	Project type	AMS-I. A	AMS-I. D	AMS-I. F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

As the solar units involved in the proposed project generate electricity primarily to deliver to captive consumers and excess electricity is to be supplied to the grid, this resembles the scenario listed at S.I no. 2 of the above table and hence the methodology, AMS I F is applied appropriately.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
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Audit history	<table><tr><th>Audit type</th><th>Period</th><th>Validation/verification body name</th><th>Number of years</th></tr><tr><td>Validation & Verification</td><td>01 October 2020 to 30 April 2022</td><td>LGAI Technological Center, S.A. (Applus+ Certification)</td><td>1 Year 6 Months</td></tr><tr><td>Verification</td><td>01-May-2022 to 31-January-2024</td><td>RINA Services S.p.A</td><td>1 Year 9 Months</td></tr><tr><td>Total</td><td>01 October 2020 to 31-January-2024</td><td>-</td><td>3 Years 3 months</td></tr></table> The above audit history of the project has been verified and confirmed by the assessment team from the VERRA project portal and previous joint validation and verification reports/01/.	Audit type	Period	Validation/verification body name	Number of years	Validation & Verification	01 October 2020 to 30 April 2022	LGAI Technological Center, S.A. (Applus+ Certification)	1 Year 6 Months	Verification	01-May-2022 to 31-January-2024	RINA Services S.p.A	1 Year 9 Months	Total	01 October 2020 to 31-January-2024	-	3 Years 3 months
Audit type	Period	Validation/verification body name	Number of years														
Validation & Verification	01 October 2020 to 30 April 2022	LGAI Technological Center, S.A. (Applus+ Certification)	1 Year 6 Months														
Verification	01-May-2022 to 31-January-2024	RINA Services S.p.A	1 Year 9 Months														
Total	01 October 2020 to 31-January-2024	-	3 Years 3 months														
Double counting and participation under other GHG programs	The project is not receiving or seeking credit for reductions and removals from a project activity under another GHG program. The project proponent has submitted an undertaking/9/ to the verification team declaring that the project is not registered under any other carbon standard or rejected or under the process of registration or shall apply for registration in future in any other GHG program. The assessment has checked the websites of other carbon registries like Clean Development Mechanism (CDM)/10/, Gold Standard (GS)/11/ and Global Carbon Council (GCC)/12/ etc. and found that the project is not registered under any other carbon standard																
No double claiming with emissions trading programs or binding emission limits	The project is not receiving or seeking credit for reductions and removals from a project activity under other emissions trading programs or binding emission limits. The project proponent has submitted an undertaking/9/ to the verification team declaring that the project is not claiming any credit under any other emissions trading programs or binding emission limits. This has also been confirmed by the assessment team by interview with the concerned person from the project proponent																

No double claiming with other forms of environmental credit	The project is not receiving or seeking any other forms of environmental credit for reductions and removals from a project activity. The project proponent has submitted an undertaking/9/ to the verification team declaring that the project is not claiming any other form of environmental credit under any other emissions trading programs or binding emission limits. The assessment team also checked the official website of renewable certificate registry of India/13/ and confirmed that the project not registered under it to claim REC benefit. This has also been confirmed by the assessment team by interview with the concerned person from the project proponent.								
Supply chain (scope 3) emissions double claiming	The project proponent is an independent power producer and not involved in any other business activity where it can act as a buyer or seller of a product whose emission footprint is changed by the project activity. This has been confirmed by the assessment team by interview with the concerned person from the project proponent.								
Sustainable development contributions	As declared by the project proponent in section 1.12 of the monitoring report/2/, the project contributes to below sustainable development goals: <table><tr><th>SDG</th><th>SDG Target</th><th>SDG Indicator</th><th>VVB assessment</th></tr><tr><td>7</td><td>7.2</td><td>7.2.1 Renewable energy share in the total final energy consumption</td><td>The project contributes to this SDG by supplying renewable form of the energy which is predominantly fossil fuel dominated. The project has supplied 42,285.47 MWh of renewable electricity till date i.e. from the date of commissioning of the project till end of this monitoring period. This has been verified from the previous periodic verification reports and the current monitoring report/02/.</td></tr></table>	SDG	SDG Target	SDG Indicator	VVB assessment	7	7.2	7.2.1 Renewable energy share in the total final energy consumption	The project contributes to this SDG by supplying renewable form of the energy which is predominantly fossil fuel dominated. The project has supplied 42,285.47 MWh of renewable electricity till date i.e. from the date of commissioning of the project till end of this monitoring period. This has been verified from the previous periodic verification reports and the current monitoring report/02/.
SDG	SDG Target	SDG Indicator	VVB assessment						
7	7.2	7.2.1 Renewable energy share in the total final energy consumption	The project contributes to this SDG by supplying renewable form of the energy which is predominantly fossil fuel dominated. The project has supplied 42,285.47 MWh of renewable electricity till date i.e. from the date of commissioning of the project till end of this monitoring period. This has been verified from the previous periodic verification reports and the current monitoring report/02/.						

	8	8.5	Average hourly earnings of female and male employees by occupation, age and persons with disabilities	26 employments were created and 17 trainings were imparted to the employees. The same can be cross checked with the employment records & the training records pertaining to the project instances.
	13	13.0	Tonnes of greenhouse gas emissions avoided or removed	The project contributes to this SDG by avoiding GHG emission due to generation of renewable form of the energy from a wind power project. The project has avoided 39,343 tCO ₂ e being emitted to the environment till date i.e. from the date of commissioning of the project till end of this monitoring period. This has been verified from the previous periodic verification reports and the current monitoring report/02/.
Additional information relevant to the project		No commercially sensitive information has been mentioned in the monitoring report to have been excluded from the public version of the project documents. This has also been confirmed during interview with the concern person from the project proponent.		

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	There has not been any change to the stakeholder makeup since validation of the project. the project had identified household owners (end users), distributors, and their representatives as stakeholders.

	This selection is based on their significant positive impact resulting from the project activities. The verification team concludes that composition of stake holder category for the project activity has remained unchanged.
Legal or customary tenure/access rights	The PP holds the company ownership and land-use rights, granted through specific legal statutes.
Stakeholder diversity and changes over time	All project activity instances have been set up at various states in India characterized by a vibrant tapestry of social, economic and cultural diversity. The project's impacts on stakeholder diversity over time are as follows: Social Diversity: No adverse effects of the project activity on the social diversity of the project locations have been observed. Cultural Diversity: No negative impacts of the project activity on the cultural diversity of the project location have been identified. Economic Diversity: The project contributes to the local economy by providing employment opportunities to the common folk. No detrimental effects on economic diversity have been recorded.
Expected changes in well-being	The implementation of this Solar project has brought about substantial positive changes in various dimensions of well-being and stakeholder characteristics under the baseline scenario. Environmental benefits include a reduction in the usage of fossil fuels and thereby reducing air pollution and mitigating climate change, by producing a cleaner energy through intermittent source of solar power. On the economic front, the project creates job opportunities, fostering economic development within the community. These changes collectively contribute to the project's overarching goal of promoting sustainability and enhancing the overall quality of life for stakeholders in the various Project Instances spread across India.
Location of stakeholders	The stakeholders of the project activity are situated within the geographical boundaries of India. More information has been incorporated in section 1.8 of the monitoring report.
Location of resources	In terms of the location of territories and resources owned or accessed by stakeholders, it can be stated that they possess ownership of their respective lands/building premises at the project activity instances. It

is notable, that no land/territorial resource from the stakeholder has been used for the project activity implementation. The PP holds all the land-use rights of the project activity location.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion			
Ongoing consultation	As a part of ongoing communication with stakeholders, a dedicated visitor cum grievance register has been placed at the project site and accessible to stakeholders to provide their feedback on the project. Thus, ongoing communication of stakeholders was followed through grievance mechanism. If any concerns received during operation of project activity, same were to be addressed if relevant to project.			
Date(s) of stakeholder consultation	As this is a grouped Project Activity, The Stakeholder consultation was done in in different Phases that is described in the below table.			
	Sl. No.	Name of the SPV	Date of Local Stakeholders Meeting	Location
	1	Tinplate Company of India Limited	03-September-2019	Jamshedpur, Jharkhand
	2	Duraline India Private Limited	09-September-2019	Hyderabad, Telangana
	3	GE T&D India Limited, Hosur	04-June-2019	Hosur, Tamil Nadu
	4	Arya Anathalay I	11-November-2019	Delhi, Delhi
	5	Time of India, Airoli	03-January-2020	Airoli, Maharashtra
	6	Asian Paints Limited	06-January-2020	Taloja, Maharashtra
	7	Time of India, Kolkata	20-January-2020	Kolkata, West Bengal
	8	TATA Lockheed Martin	27-January-2020	Hyderabad, Telangana

	Aerostructures Limited		
9	TSPDCL, Demag	03-February-2020	Jamshedpur, Jharkhand
10	Apollo Gleneagles Hospital Limited	10-February-2020	Kolkata, West Bengal
11	Tata Metaliks Limited	17-February-2020	Kharagpur, West Bengal
12	Arya Anathalay II	16-March-2020	Delhi, Delhi
13	Tata Motors Limited (Car Plant)	23-March-2020	Pimpri, Maharashtra

The details of the stakeholder meeting for newly added instance mentioned below:

Sl. No.	Name of the SPV	Date of Local Stakeholders Meeting	Location
1	Tata Steel Limited (Odisha)	15-January-24	Kalinganagar, Odisha
2	Tata Steel Limited (Odisha)	15-January-24	Kalinganagar, Odisha
3	Tata Steel Limited (Jharkhand)	31-January-2024	Jamshedpur, Jharkhand
4	Tata Steel Limited (Jharkhand)	31-January-2024	Jamshedpur, Jharkhand
5	Tata Electronics Private Limited	19-January-24	Hosur, Tamil Nadu
6	Kejirawal Castings Limited	31-January-24	Kolkata, West Bengal
7	The Tinplate Company of India Limited- Ph-02	24-January-24	Jamshedpur,

	8	Mplastics Toys & Engineering Private Limited	21-January-24	Hosur, Tamil Nadu
	9	ZF Rane Automotive India Private Limited (Virmalai)	22-July-2023	Chennai, Tamil Nadu
	10	ZF Rane Automotive India Private Limited (Gudvancherry)	11-January-24	Chennai, Tamil Nadu
	11	Tata BlueScope Steel Private Limited	13-January-24	Jamshedpur, Jharkhand
	12	Rane Madras Limited	22-January-24	Pondicherry, Tamil Nadu
	13	Premium Transmission Private Limited	10-February-24	Aurangabad, Maharashtra
Communication of monitored results	The monitoring results are communicated from the concerned individuals (stakeholders) to PP, through the grievance register. The site officials acknowledge and address the comments, suggestions, or grievances submitted by stakeholders, resolving issues as needed.			
Consultation records	The consultation record (grievance register) is maintained by the site officials of the project activity. The grievance register/19/ maintained at project site submitted is verified by the verification team which is found appropriate.			
Stakeholder input	There has been no grievance received for the current monitoring period.			

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Consent	Following clause 3.18.8 of VCS standard v.4.7/5/, the project proponent has disclosed 1. The minimum information, including the nature, size, pace, reversibility, and scope of the solar project activity; 2. The reason/purpose of the project, which is to efficiently use non-renewable biomass fuel and reduce other environmental and health hazards for the community; 3. The duration of the project activity, set at 7 years; 4. The locations that will be affected, primarily the villages in project location; 5. A preliminary assessment of the likely economic, social, cultural, and environmental impact, including potential risks and fair and equitable benefit sharing in a context that respects the precautionary principle. Stakeholders were briefed that the project would bring solely positive effects on economic, social, cultural, or environmental aspects, including the production of electricity from a renewable source of energy and increased employment opportunities. 6. Moreover, information regarding personnel likely to be involved in the execution of the proposed project, including Indigenous Peoples, private sector staff, research institutions, government employees, and others, was shared with stakeholders, and the project was implemented after their collective consent. Hence, it is evident that the affected community was informed prior to the operational date of the project activity.
Outcome of FPIC discussion	Adhering to the FPIC rights of the stakeholders, they were informed in advance regarding the implementation, the overall impacts and other relevant details of the project activity, through the stakeholders' consultation. And only after receiving the collective consent of the stakeholders, the project activity was implemented. The project has not encroached on land, relocated people without consent, and forced physical or economic displacement.

Thus, the verification team concluded that that the project has not encroached on land, relocated people without consent, and forced physical or economic displacement.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	Feedback register/ Grievance register is kept at project site office where any stakeholder can come and register his/her feedback. The grievance register is being for submission of input/ grievance (if any) related to the project activity. The queries by stakeholders (during question-and-answer session) are noted and documented in the grievance register. The grievance register/19/ maintained at project site submitted is verified by the verification team which is found appropriate.
Grievance redress procedure	Also, there is a dedicated e-mail ID "tatatpower@ethics-line.com" available for local stakeholders to lodge their complaints along with the toll-free helpline numbers 0008001004382 and 0008001008277. Also, accessible at normal domestic call rates within India: +91-11-71279005. Also, the local stakeholders can reach through the third-party website: www.tip-offs.com & the physical mails can be addressed to "Delotte Touche Tohmatsu India LLP, C/o Arjun Rajagopalan, Partner (Ethics Helpline Services), 19th Floor, 46-Prestige Trade Tower, palace Road, High Grounds, Bengaluru - 560001.

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
No Comments Received	Not Applicable	Not Applicable

4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Risks to stakeholder participation	Not Applicable
Working conditions	Not Applicable
Safety of women and girls	Not Applicable
Safety of minority and marginalized groups, including children	Not Applicable
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	Not Applicable

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	The project proponent strictly follows the national laws prohibiting discrimination and sexual harassment. There has been no reports of discrimination and sexual harassment for this monitoring period. This has been confirmed by interview with the concerned person from the project proponent.
Management experience	There is no new entity involved in project design or implementation, demonstrate the management experience of such entities. Hence, not applicable.
Gender equity in labor and work	The project proponent provides equal opportunities in the context of gender equity and pay for labour and work. This has been confirmed by interview with the concerned person from the project proponent.

Human trafficking, forced labor, and child labor	Project activity does not use victims of human trafficking, forced labor, and child labor. This has been confirmed by interview with the concerned person from the project proponent. The employment record/14/ submitted by the project proponent is also checked by the verification team to confirm the same.
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4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	The representative of the project proponent has clarified and declared during interview that there will be no human rights violation of any kind to any of the stakeholders during construction and operation of the project activity.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation and protection of cultural heritage	The project does put any adverse impact of the indigenous people and cultural heritage.

4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	There is no dispute over territories or resources involved in the project activity.
Respect for property rights	The land / property for the project activity belongs to the project proponent and, it can be supported through the relevant documents. Additionally, the project activity has obtained the free, prior and informed consent of the stakeholders (including the IPs, LCs, and customary rights holders). This ensures that their lands are property rights are protected and respected. Additionally, the project activity has obtained the free, prior and informed consent of the end users (beneficiaries including the IPs, LCs, and

customary rights holders). This ensures that their lands are property rights are protected and respected.

4.2.7.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	Not Applicable
Benefit sharing during the monitoring period	Not Applicable

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	No impact on biodiversity is likely to be caused due to the solar power project.
Soil degradation and soil erosion	The project activity mitigates soil degradation and erosion by minimizing the extensive need for wood gathering, thereby reducing deforestation and soil exposure
Water consumption and stress	This project activity does not have any negative impacts on water consumption and does not lead to water stress in any way.
Usage of fertilizers	There is no dedicated plantation involved in the project. So, no fertilizers are used in the project. Hence, this is not applicable.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	Not Applicable

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	Not Applicable

4.3 Accuracy of Reduction and Removal Calculations

There is no change in the project design or operation and monitoring practices at site which can alter the applicability or design of the project activity. In addition to the interviews with rural households, representatives of project proponent and physical inspection, assessment team have checked the all the documentation and found that the project activity is implemented as per the registered VCS joint PD-MR/1/ and Monitoring report/2/ submitted by the project proponent for the current monitoring period.

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the MR. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the MR.
Findings	No finding was raised.
Conclusion	Baseline emission is the product of Quantity of net electricity generation that is produced as a result of the implementation of the project activity multiplied by the Combined margin CO₂ emission factor for grid connected power generation $BE_y = EG_{BL,y} \times EF_{grid,CM,y}$ Where, BE_y = Baseline Emissions in year y; t CO₂ $EG_{BL,y}$ = Quantity of net electricity displaced as a result of the implementation of the VCS project activity in year y (MWh)

	$EF_{grid,CM,y}$ = 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 Version 7.0” (t CO₂/MWh) $BE_y = 42,285 \text{ MWh} * 0.9305 \text{ tCO}_2\text{e/MWh} = 39,343 \text{ tCO}_2\text{e}$ (Rounded down value to nearest 0). $EG_{BL,y}$: The verification team has checked the entire monthly JMR reports/21/ and invoices/22/ applicable for the monitoring period as per the project activity applied for verifications and found all the parameters are monitored and recorded as per the registered monitoring plan/1/ in the MR. The verification team has crosschecked the emission reduction sheet and monitoring report data with the JMR sheet and invoice bills and found all the values are matching. Bidirectional Energy meters were used at each instances location to measure energy net generated and supplied to industries in order to displace to energy which will be utilized from Indian grid. Installed energy meters are totally in control of Tata Power Renewable Energy Limited. During current monitoring period, meter readings were taken by the individual project instance site employees and the same was forwarded to the central office of the Tata Power Renewable Energy Limited. Out of 13 existing instances, two instance and out of 3 out of the 13 newly added activity instances are operational on net metering mechanism hence, the meter readings were taken by the individual project instance site employees and the same are forwarded to the central office of the Tata Power Renewable Energy Limited. The electricity supplied to grid, the same is reflected in the consumer bill/23/ of the SPV which are verified by the verification team. Thus accepted.
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4.4 Quality of Evidence to Determine Reductions and Removals

Means of verification	The verification team checked the break down log/24 for the monitoring period. During the verification site visit each meter location of the solar plants is also checked. The Calibration details of the monitoring meters are also checked with calibration certificates/25/.
Findings	No finding was raised.

Conclusion	The verification team checked the break down log for the monitoring period. During the audit meter location of instances is also checked. Quantity of net electricity displaced as a result of the implementation of this project activity is the monitoring parameter as per the Joint VCS PD & MR/1/. The metering arrangement is bi-directional energy meters (Main meter) of accuracy class 0.5s or 1.0s at instances. These electricity meters are being used by TPREL for JMR preparation. These meters record several parameters including electricity exported. These electricity meters are being used by TPREL for preparation of monthly generation reports. The details like make, Serial number, Calibration dates etc. are provided in appendix 05 of this report. Verification team confirms that all the energy meters (main meter) installed at each building/block are of accuracy class of 0.5s/1.0s and are calibrated as per the calibration frequency mentioned in monitoring plan in VCS PD & MR/1/ i.e. The calibration frequency of meters is once in 5 years. No delayed calibrations were observed in the project activity for this monitoring period. All the meters are of same accuracy class i.e., 0.5s & 1.0s as per the requirement of the VCS approved PD & MR/1/. In future meter change may happen with same accuracy class or with better accuracy class. Interview during Site visit with O&M personnel also confirms the same. Calibration details of the monitoring meters checked with calibration certificates submitted by PP and found that calibration frequency of 5 years is complied. Thus, no delayed calibration is observed and thus the same is found appropriate. Details related energy meters and its calibration is provided in appendix 06 below. The break down log is checked/24/ and there is no major breakdown during the monitoring period. No unforced error observed. No sampling procedure applied for monitoring of the data parameter and entire documents were checked by the assessment team to arrive at positive verification conclusions. The monitoring plan is followed at the project site. The monitoring meters were calibrated in line with the registered monitoring plan and there was no delay in calibration observed. Thus, assessment team concluded that the evidences are sufficient in quantity, and appropriate for the quality, to determine the GHG reductions and removals. Assessment team checked the calculation of estimated VER vs. Actual VER. As per the VCS PD & MR/1/ and after the inclusion of the new project activity instances, the estimated amount of VERs annually is 130,360 tCO₂e. The days involved in present monitoring period are different for each instance due to different commissioning dates. Therefore, on pro-rata basis, the estimated VERs for the monitoring period are different. Thus, comparison is done on the estimated ERs for the operational days of each instance and actual ERs achieved during this monitoring period. The actual emission reduction has been observed to be 70.39% less (Overall project) in comparison with the ex-ante estimations due to low plant load factor (PLF) and other parameters like climatic conditions which are not in the control of project proponent.
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4.5 Non-Permanence Risk Analysis

Not Applicable

5 VERIFICATION OPINION

5.1 Verification Summary

RINA Services S.p.A. (RINA) has been engaged by EKI Energy Services Limited to perform the verification of the “Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited”.

The management of the project participant/owner is responsible for the preparation of the GHG emissions data and the reported/estimated GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered VCS joint PD&MR/1/and the approved methodologies.

Our Verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and VCS Standard version 4.7. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification team can confirm that:

- the project is operated as planned and described in the registered VCS joint PD&MR;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the registered VCS joint PD&MR/1/.
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan
- The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- The monitoring system is in place and generates GHG emission reductions data;
- The GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned, during verification process.

5.2 Verification Conclusion

Verification period: From 01-May-2022 to 31-January-2024

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-May-2022 to 31-Dec-2022	10,221	0	0	10,221	0	10,221
01-January-2023 to 31-December-2023	27,119	0	0	27,119	0	27,119
01-January-2024 to 31-January-2024	2,003	0	0	2,003	0	2,003
Total	39,343	0	0	39,343	0	39,343

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-May-2022 to 31-Dec-2022	49,826	10,221	-79%	As this is group project So, some of the new instances included during current verification. Since some of the instances not commissioned yet therefore the actual ER is very much lower than the actual ER.
01-January-2023 to 31-December-2023	74,230	27,119	-63%	As this is group project So, some of the new instances included during current verification. Since some of the instances not commissioned yet therefore the actual ER is very much lower than the actual ER.
01-January-2024 to 31-January-2024	6,304	2,003	-68%	As this is group project So, some of the new instances included during current verification. Since some of the instances not commissioned yet therefore the actual ER is

				very much lower than the actual ER.
Total	130,360	39,343	-70.39	

APPENDIX 1: COMMERCIALY SENSITIVE INFORMATION

No commercially sensitive information has been provided in the monitoring report.

APPENDIX 2: DOCUMENT REFERENCES

S. No	Title of Document	Version	Date
1	- Registered VCS Joint PD & MR of the VCS project titled, "Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	4.0	23-October-2023
	- Joint validation-verification of the VCS project titled," Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	03	25-October-2023
2	2 nd periodic Monitoring Report of the VCS project titled, "Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	01	15-March-2024
	2 nd periodic Monitoring Report of the VCS project titled, "Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	02	30-April-2024
3	Emission reduction spreadsheet w.r.t the 2 nd periodic Monitoring Report of the VCS project titled, "Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	01	15-March-2024
	Emission reduction spreadsheet w.r.t the 2 nd periodic Monitoring Report of the VCS project titled, "Grouped Rooftop Solar Project by Tata Power Renewable Energy Limited" VCS ID:3556	02	30-April-2024
4	AMS.I. F: Renewable electricity generation for captive use and mini-grid	05.0	08-September-2022
5	VCS Requirements: a) Verified Carbon Standard Program Guide, v4.4; b) Verified Carbon Standard, v4.7; c) VCS Program Definitions, Ver. 4.4 d) VCS Registration and Issuance Process, v4.4 e) VCS monitoring report template https://verra.org/programs/verified-carbon-standard/vcs-program-details/#rules-and-requirements	a) 4.4 b) 4.7 c) 4.4 d) 4.4 e) 4.3	a) 29-August-2023 b) 16-April-2024 c) 29-August-2023 d) 4-October-2023 e) 29-August-2023
6	CDM requirements: a) CDM project standard for project activities https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210921115752577/reg_stan04_v03.0.pdf b) CDM project cycle procedure for project activities Version 03.0 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210921115831128/reg_stan06_v03.0.pdf c) TOOL27: Methodological tool: Investment analysis https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v13.pdf	a) 03.0 b) 03.0 c) 9.0	a)9-September-2021 b)9-September-2021 c)13-September-2012

8	Site assessment –interviews of staff personnel, photographs, physical inspection of the project sites	-	
9	Declaration/undertaking for no double counting and participation under other GHG programs, no double claiming with emissions trading programs or binding emission limits and no double claiming with other forms of environmental credit.	-	...
10	Official registry website of Clean Development Mechanism https://cdm.unfccc.int/Projects/projsearch.html	-	Last retrieved and verified on 30-April-2024
11	Official registry website of Gold Standard https://www.goldstandard.org/	-	Last retrieved and verified on 30-April-2024
12	Official registry website of Global Carbon Council https://www.globalcarboncouncil.com/	-	Last retrieved and verified on 30-April-2024
13	Official REC registry of India. https://www.recregistryindia.nic.in/index.php/publics/registered_regens	-	Last retrieved and verified on 30-April-2024
14	Employments records for the monitoring period.	-	-
15	Training records for the monitoring period.		-
16	Grievance register maintained by the project proponent.	-	-
17	Certified True Copies of the Resolution passed for investment decision for the new project activity instances added in the current monitoring period.	-	-
17	Power Purchase Agreements (PPAs) for the project activity instances included in the project, both existing and new.	-	-
18	Commissioning certificates of the project activity instances included in the project, both existing and new.	-	-
19	Purchase orders placed for the new project activity instances added in the current monitoring period.	-	-
20	O&M agreements for the project activity instances included in the project, both existing and new.	-	-
21	Joint Meter Reading (JMR) reports for all the project activity instances (both new and old) for the entire monitoring period.	-	-
22	Invoices raised against the monthly generation for all the project activity instances (both new and old) for the entire monitoring period.	-	-

23	Electricity bills of the net metering consumers (2 from existing instances and 3 from new instances) for the entire monitoring period.	-	-
24	Breakdown/shutdown records of the solar plants for the entire crediting period	-	-
25	Calibration certificates of the energy meters for the all the activity instances used during the monitoring period.	-	-
26	Reserve Bank of India publications for rate of inflation https://www.rbi.org.in/commonman/English/Scripts/PressReleases.aspx?Id=3238	-	Last retrieved on 30-April-2024
27	Board resolution for investment decision date for new project activity instances added.	-	-
28	CERC tariff order dated 30-March-2016 for determination of levelized generic tariff from renewable sources of energy.	-	30-March-2016

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
EB	Executive Board
ER	Emission Reductions
VCU	Verified Carbon Unit
CR	Clarification Request
DOE	Designated Operational Entity
DNA	Designated National Authority
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report

MWh	Megawatt hour
PD	Project Description
PP	Project Proponent
PS	Project Standard
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VCS	Verified Carbon Standard

APPENDIX 4: FINDINGS OVERVIEW

Table 1. Remaining FAR from validation and/or previous verifications (Applicable for verification)

FAR ID	xx	Section no.		Date: xx/xx/xxxx
Description of FAR				
NA				
Project participant response		Date: DD/MM/YYYY		
NA				
Documentation provided by project participant				
NA				
DOE/VVB/VVB assessment		Date: : DD/MM/YYYY		

Table 2. CL from this verification

CL ID	CL 01.	Section no.	-	Date: 18/04/2024
Description of CL				

The project proponent is required to submit the below evidence for the verification purpose.

1. Employments records, attendance sheet of employees
2. Training records
3. Grievance register
4. Single line diagram of the project activity
5. Meter photographs
6. No double counting Declaration of the project activity for the current monitoring period.
7. Commissioning certificates
8. Power purchase agreements
9. Actual project cost
10. EPC contract copy
11. O&M agreement copy
12. Detailed project report (if any)
13. Actual generation values
14. Sample JMR and invoices
15. Calibration certificated of the energy meters

Project participant response

Date: 29/04/2024

1. Employments records, attendance sheet of employees has been submitted.
2. Training records has been submitted.
3. Grievance register has been submitted.
4. Single line diagram of the project activity has been submitted.
5. Meter photographs has been submitted.
6. No double counting Declaration of the project activity for the current monitoring period has been submitted.
7. Commissioning certificates has been submitted.
8. Power purchase agreements has been submitted.
9. Actual project cost has been submitted.
10. EPC contract copy has been submitted.
11. O&M agreement copy has been submitted.
12. Detailed project report (if any) has been submitted.
13. Actual generation values have been submitted.
14. Sample JMR and invoices has been submitted.
15. Calibration certificated of the energy meters has been submitted.

Documentation provided by project participant

1. Employments records, attendance sheet of employees
2. Training records
3. Grievance register
4. Single line diagram of the project activity
5. Meter photographs
6. No double counting Declaration of the project activity for the current monitoring period.
7. Commissioning certificates
8. Power purchase agreements
9. Actual project cost
10. EPC contract copy
11. O&M agreement copy
12. Detailed project report (if any)
13. Actual generation values
14. Sample JMR and invoices
15. Calibration certificated of the energy meters

DOE/VWB/VWB assessment

Date: 01/05/2024

All the documents submitted by the project proponent are checked and found appropriate. Necessary assessments are provided in the respective sections of the report.

CL is closed.

CL ID	CL 02.	Section no.	-	Date: 18/04/2024
Description of CL				
Project proponent has submitted monitoring report in the latest available “VCS Monitoring Report Template, v4.3”. However, PP mentioned VCS standard version 4.5 on the cover page of the submitted MR version 01. Kindly clarify				
Project participant response		Date: 29/04/2024		
Latest VCS standard v4.7 has been updated on the cover page of the submitted MR.				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VWB/VWB assessment			Date: 01/05/2024	
The revised monitoring report submitted by the project proponent is checked and found that all the sections are filled as per the applicable template.				
CL is closed.				

Table 3.CAR from this verification

CAR ID	CAR 01	Section no.	-	Date: 18/04/2024
Description of CAR				
Name of the MR file is not in line with the VCS monitoring report template v.4.3				
Project participant response		Date 29/04/2024		
Name of the MR file has been updated as per VCS monitoring report template v4.3				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VVB/VVB assessment				Date: DD/MM/YYYY

CAR ID	CAR 02	Section no.	Table 1 section 1.12 of MR version 01	Date: 18/04/2024
Description of CAR				
SDG 07 and SDG 13 described in the Table 1: Sustainable Development Contributions of the MR version 01, overall project contribution of electricity generation and Emission reduction is incorrect. Kindly revise it.				
Project participant response		Date: 29/04/2024		
Table 1 of the MR has been corrected in the revised monitoring period_v02.				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VVB/VVB assessment				Date: 01/05/2024
The overall project contribution of electricity generation and Emission reduction are found to be corrected in the revised monitoring report submitted by the project proponent.				
CAR is closed.				

CAR ID	CAR 03	Section no.	Section 2.1.5 of MR version 01	Date: 18/04/2024
Description of CAR				
The project proponent is required to provide the correct project weblink in the section 2.1.5 of the monitoring report				
Project participant response		Date: 29/04/2024		
section 2.1.5 of the monitoring report has been updated.				

Documentation provided by project participant	
Monitoring report_v02	
DOE/VVB/VVB assessment	Date: 01/05/2024
The weblink in section 2.1.5 of the revised monitoring report has been found to be updated. CAR is closed.	

CAR ID	CAR 04	Section no.	ER sheet	Date: 18/04/2024
Description of CAR				
Annual Estimated Emission Reductions as per PDD (tCO2) mentioned in the ER sheet is not inline with the joint PD & MR.				
Project participant response		Date: 29/04/2024		
Annual Estimated Emission Reductions as per registered JPDMR has been updated in ER sheet.				
Documentation provided by project participant				
ER sheet_v02				
DOE/VVB/VVB assessment				Date: 01/05/2024
The annual estimated emission reduction has been found to be considered correctly in the revised ER sheet submitted by the project proponent.				
CAR is closed.				

CAR ID	CAR 05	Section no.	3.1	Date: 18/04/2024
Description of CAR				
The project proponent is required to include the actual implementation status of all the old project activity instances and new activity instances in Section 3.1 of the monitoring report				
Project participant response		Date: 29/04/2024		
Section 3.1 of the monitoring report has been now updated. Also, the details of the new instances has been included in section 3.3 of the revised MR.				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VVB/VVB assessment				Date: 01/05/2024
The actual implementation status of all the project activity instances is found to be incorporated appropriately in section 3.1 of the revised monitoring report.				
CAR is closed.				

CAR ID	CAR 06	Section no.	3.3	Date: 18/04/2024
Description of CAR				
The demonstration on the fulfilment of the new activity instances with the applicability conditions of the applied methodology and the baseline defined in the registered joint PD-MR is missing in the section 3.3 of the monitoring report.				
Project participant response		Date: 29/04/2024		
As per applied methodology AMS 1.F all the new instance has replacing the fossil fuel-based power plant generating the renewable energy .Also, the new instances have to follow the eligibility criteria of the grouped instances for demonstrating the baseline scenario as mentioned in the section 1.4 of the registered JPDMR . Hence, new instances meet the baseline scenario. please refer the registered JPDMR for the details of baseline scenario.				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VVB/VVB assessment				Date: 01/05/2024
The demonstration on the fulfilment of the new activity instances with the applicability conditions of the applied methodology and the baseline defined in the registered joint PD-MR is found to be incorporated appropriately in the section 3.3 of the revised monitoring report.				
CAR is closed.				

CAR ID	CAR 07	Section no.	3.3	Date: 18/04/2024
Description of CAR				
The project proponent needs to define the type of scheme of the project activity instances specifically i.e. grid connected, captive or third party.				
Project participant response		Date: 29/04/2024		
The PP has been defined the type of scheme for each instance include in the group project activity.				
Documentation provided by project participant				
Monitoring report_v02				
DOE/VVB/VVB assessment				Date: 01/05/2024
The project proponent has now defined the type of scheme of the project activity instances in the revised monitoring report submitted.				

CAR ID	CAR 08	Section no.	3.3	Date: 18/04/2024
Description of CAR				
Calculation of benchmark with date of investment decision date, default rate of return and inflation rate considered is missing in the monitoring report.				

Project participant response	Date: 29/04/2024
The required information as mentioned above has been updated in section 3.3 in the revised MR for each newly added instance.	
Documentation provided by project participant	
Monitoring report_v02	
DOE/VVB/VVB assessment	Date: 01/05/2024
Calculation of benchmark with date of investment decision date, default rate of return and inflation rate considered are found to have been provided appropriately in the revised monitoring report submitted.	
CAR is closed.	

Table 4. FAR from this verification

FAR ID	FAR 01	Section no.	Date: DD/MM/YYYY
Description of FAR			
NA			
Project participant response			Date: DD/MM/YYYY
NA.			
Documentation provided by project participant			
NA.			
DOE/VVB/VVB assessment			Date: DD/MM/YYYY
NA.			

APPENDIX 5: ADDITIONALITY OF NEWLY ADDED INSTANCES

Additionality

The additionality of the Project shall be demonstrated by applying the following approach, consisting of two components:

- (i) A Legal Requirement Test; and

(ii) An Additionality Test either based on a Positive List test or a projects-specific additionality test.

a) Legal Requirement Test

The project is not enforced by law. The project passes the legal requirement test since there are no enforced laws, statutes, regulations, court orders, environmental-mitigation agreements, permitting conditions of other legally-binding mandates requiring its implementation. Since voluntary commitments/agreements within a firm or by an entity do not constitute the legal requirement, the outcome of the legal requirement test is concluded as positive.

b) Additionality Test

accordance with applied Tool 21, “Demonstration of additionality of small-scale project activities Version 13.1, the project proponent shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

- Investment barrier
- Technological barrier
- Barrier due to prevailing practice
- Other barriers

The project proponent has identified “investment barrier” as the most relevant barrier faced by the project activity. The investment barrier faced by the project activity consists of barrier due to high capital cost and consequent impact on return

Investment Barrier:

The purpose of investment analysis is to determine whether the project activity is economically or financially less attractive than other alternatives without additional funding that may be derived from the sale of carbon credits. The investment analysis was conducted in accordance with guidelines on investment analysis.

The project proponent has considered Equity IRR as the suitable financial indicator for investment analysis.

Suitability of Benchmark:

As per Tool 27: Investment analysis, Version 13.0, EB 120 annex 3/6/, “In cases where a benchmark approach is used the applied benchmark shall be appropriate to the type of IRR calculated. Local commercial lending rates or WACC are appropriate benchmarks for a project IRR. Required/expected returns on equity are appropriate benchmarks for an equity IRR. Benchmarks supplied by relevant national authorities are also appropriate if the DOE can validate that the benchmarks used are applicable to the project activity and the type of IRR calculation presented.”

Accordingly, the project proponent has selected required/ expected returns on equity as the appropriate benchmark for the project.

The investment analysis has been carried out in Nominal terms. Accordingly, Default value has been adjusted by adding suitable forecasted inflation rate taken from RBI (Central Bank, India). Project

proponent has calculated Benchmark based on WPI mean inflation rate. As per paragraph 16 of the Tool 27: Investment analysis, Version 13.0, EB 120 annex 3/6/, the inflation forecast of the central bank of the host country should be for the duration of the crediting period. However, since RBI provides forecast inflation only for 5 & 10 years, the project investor has calculated benchmark using 10 years durations and the same is considered as Benchmark for the project activity.

Methodology deployed for arriving at a suitable value of Benchmark using Default Value has been described below:

- As the project activity generates power utilizing solar energy, Group 1 as per paragraph 5 of Appendix of EB 116, Annex 2/6/ has been identified as a suitable category.
- The investment analysis has been carried out in Nominal terms. Accordingly, default value as given in paragraph 6, Appendix, Annex 2, EB 116 has been adjusted by adding suitable forecast inflation rate taken from RBI (Central Bank, India).
- Project investor has calculated Benchmark based on WPI mean inflation rate. As per paragraph 16 of Appendix of EB 116, Annex 2/6/, the inflation forecast should be for the duration of the crediting period. The project investor has calculated benchmark using 10 years inflation as Benchmark for the project activity.

The benchmark has been computed in the following manner:

$$\text{Nominal Benchmark}^1 = \{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$$

Where:

- Default value for Real Benchmark = 9.13% (as per Appendix of CDM TOOL 27/6/: Investment Analysis, version 13)
- Inflation Rate forecast published by Reserve Bank of India (RBI) (i.e. Central Bank of India)/26/.

For benchmark estimation, the Cost of Equity has been considered using the “Methodological tool: Investment analysis” available at the time of decision making. The board resolution/27/ passed for the new activity instances added are checked by the verification team to confirm the investment decision date applicable for the new activity instances.

The inflation forecast rate, benchmark, default benchmark considered for all the project activities is summarized in the table below.

SI No.	Project Owner	Capacity (MW)	State	Technology	Inflation Forecast	Benchmark	Default Benchmark	Decision Date
1	Tata Steel Limited (Odisha)	6.88	Odisha	Rooftop	4.02 %	13.50%	9.13%	04-October-2021

¹ As per Fisher Equation, https://en.wikipedia.org/wiki/Fisher_equation

² <https://www.rbi.org.in/commonman/English/Scripts/PressReleases.aspx?Id=3238>

2	Tata Steel Limited (Odisha)	7.50	Odisha	Floating	4.0 %	13.50%	9.13%	04-October-2021
3	Tata Steel Limited (Jharkhand)	4.92	Jharkhand	Rooftop	4.0 %	13.50%	9.13%	04-October-2021
4	Tata Steel Limited (Jharkhand)	7.50	Jharkhand	Floating	4.0 %	13.50%	9.13%	04-October-2021
5	Tata Electronics Private Limited	7.08	Tamil Nadu	Rooftop	4.0 %	13.50%	9.13%	05-May-2021
6	Kejriwal Castings Limited	1.26	West Bengal	Rooftop	4.0 %	13.50%	9.13%	11-May-2022
7	The Tinsplate Company of India Limited- Ph-02	0.892	Jharkhand	Rooftop	4.0 %	13.50%	9.13%	01-March-2021
8	Mplastics Toys & Engineering Private Limited	0.77	Tamil Nadu	Rooftop	4.0 %	13.50%	9.13%	09-January-2023
9	ZF Rane Automotive India Private Limited (Virmalai)	0.69	Tamil Nadu	Rooftop	4.0 %	13.50%	9.13%	05-January-2023
10	ZF Rane Automotive India Private Limited	0.56	Tamil Nadu	Rooftop	4.0 %	13.50%	9.13%	05-January-2023

	(Gudvancher ry)							
1 1	Tata BlueScope Steel Private Limited	1.426	Jharkhand	Rooftop	4.0 %	13.50%	9.13%	19-October-2021
1 2	Rane Madras Limited	0.76	Tamil Nadu	Rooftop	4.0 %	13.50%	9.13%	18-November-2022
1 3	Premium Transmission Private Limited	0.48	Maharashtra	Rooftop	4.0 %	13.50%	9.13%	04-August-2022

The period considered for Post Tax Equity IRR calculations is 25 years, which corresponds to the operational lifetime of the project activity.

Key Assumptions supporting financial projections in excel spreadsheet is submitted and the same has been summarized below for all the new added instance. The input parameters for financial assumptions are considered from the CERC tariff order dated 30-March-2016 for determination of levelized generic tariff from renewable sources of energy/28/which was available at time of investment decision. The same has been reviewed by the verification team and found appropriate. The input parameters assumed for financial analysis by the project proponent for all the newly added instances are provided below.

1. Tata Steel Limited (Odisha): Rooftop

Details of the project		Source	Link
State where the project is situated	Odisha		
Total Capacity (MW)	6.880		
Date of Commissioning	20-Mar-24		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	11,451,072	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf

Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	4.82	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	3.65	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	364.64	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	364.64		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	364.64	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	36.46	Calculated Value	
Net Depreciable Value (INR Mn.)	328.18	Calculated Value	
Residual Value (INR Mn.)	36.46	Calculated Value	-

IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//hdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.95%	11.75%	13.49%	10.05%
O&M	11.93%	11.75%	11.57%	-103.05%
Project Cost	13.50%	11.75%	10.29%	-10.02%
Tariff Rate	9.95%	11.75%	13.49%	10.05%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.75%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

2. Tata Steel Limited (Jharkhand): Floating

Details of the project		Source	Link
State where the project is situated	Odisha		
Total Capacity (MW)	7.500		
Date of Commissioning	Under commissioning		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	12,483,000	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	5.25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	3.98	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	397.50	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	397.50		
Term loan			
Loan Amount (INR Mn.)			-

Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	397.50	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	39.75	Calculated Value	
Net Depreciable Value (INR Mn.)	357.75	Calculated Value	
Residual Value (INR Mn.)	39.75	Calculated Value	-
IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/chart s%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			

Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.84%	11.65%	13.40%	10.05%
O&M	11.83%	11.65%	11.46%	-103.05%
Project Cost	13.40%	11.65%	10.18%	-10.02%
Tariff Rate	9.84%	11.65%	13.40%	10.05%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.65%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

3. Tata Steel Limited (Jharkhand) : Rooftop

Details of the project		Source	Link
State where the project is situated	Jharkhand		
Total Capacity (MW)	4.920		
Date of Commissioning	21-Sep-22		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	8,188,848	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf

Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	3.44	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	2.61	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	260.76	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	260.76		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	260.76	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	26.08	Calculated Value	

Net Depreciable Value (INR Mn.)	234.68	Calculated Value	
Residual Value (INR Mn.)	26.08	Calculated Value	-
IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Books%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Books%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.84%	11.65%	13.40%	10.58%
O&M	11.83%	11.65%	11.46%	-108.48%
Project Cost	13.40%	11.65%	10.18%	-10.49%

Tariff Rate	9.84%	11.65%	13.40%	10.58%
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Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.65%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

4. Tata Steel Limited (Jharkhand): Floating

Details of the project		Source	Link
State where the project is situated	Jharkhand		
Total Capacity (MW)	7.500		
Date of Commissioning	21-Sep-22		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	12,483,000	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	5.25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	3.98	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	397.50	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		

Equity Investment (INR Mn.)	397.50		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	397.50	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	39.75	Calculated Value	
Net Depreciable Value (INR Mn.)	357.75	Calculated Value	
Residual Value (INR Mn.)	39.75	Calculated Value	-
IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts/%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Books%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		

GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//hdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Books%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.84%	11.65%	13.40%	10.58%
O&M	11.83%	11.65%	11.46%	-108.48%
Project Cost	13.40%	11.65%	10.18%	-10.49%
Tariff Rate	9.84%	11.65%	13.40%	10.58%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.65%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

5. Tata Electronics Private Limited

Details of the project		Source	Link
State where the project is situated	Tamil Nadu		
Total Capacity (MW)	7.080		
Date of Commissioning	7-Feb-23		

Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	11,783,952	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	4.96	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	3.75	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	375.24	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	375.24		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-

Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	375.24	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/s_m_3.pdf
Salvage value (INR Mn.)	37.52	Calculated Value	
Net Depreciable Value (INR Mn.)	337.72	Calculated Value	
Residual Value (INR Mn.)	37.52	Calculated Value	-
IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//ht docs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
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PLF	9.88%	11.67%	13.40%	10.55%
O&M	11.85%	11.67%	11.49%	-107.79%
Project Cost	13.40%	11.67%	10.22%	-10.48%
Tariff Rate	9.88%	11.67%	13.40%	10.55%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.67%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

6. Kejirawal Castings Limited

Details of the project		Source	Link
State where the project is situated	West Bengal		
Total Capacity (MW)	1.260		
Date of Commissioning	30-Jan-24		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	2,097,144	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.88	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		

Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.67	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	66.78	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	66.78		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	66.78	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	6.68	Calculated Value	
Net Depreciable Value (INR Mn.)	60.10	Calculated Value	
Residual Value (INR Mn.)	6.68	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm

Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.84%	11.65%	13.40%	10.58%
O&M	11.83%	11.65%	11.46%	-108.48%
Project Cost	13.40%	11.65%	10.18%	-10.49%
Tariff Rate	9.84%	11.65%	13.40%	10.58%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.65%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

7. The Tinsplate Company of India Limited- Ph-02

Details of the project		Source	Link
State where the project is situated	Jharkhand		
Total Capacity (MW)	0.892		
Date of Commissioning	31-Dec-22		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	1,484,645	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.62	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.47	CERC order	http://www.cercind.gov.in/2016/orders/S017.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	47.28	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	47.28		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-

Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	47.28	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	4.73	Calculated Value	
Net Depreciable Value (INR Mn.)	42.55	Calculated Value	
Residual Value (INR Mn.)	4.73	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources/htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	

MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.82%	11.62%	13.36%	10.80%
O&M	11.80%	11.62%	11.43%	-111.08%
Project Cost	13.36%	11.62%	10.16%	-10.68%
Tariff Rate	9.82%	11.62%	13.36%	10.80%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.62%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

8. Mplastics Toys & Engineering Private Limited

Details of the project		Source	Link
State where the project is situated	Karnataka		
Total Capacity (MW)	0.770		
Date of Commissioning	2-Aug-23		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	1,281,588	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf

Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.54	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.41	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	40.81	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	40.81		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	40.81	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	4.08	Calculated Value	
Net Depreciable Value (INR Mn.)	36.73	Calculated Value	

Residual Value (INR Mn.)	4.08	Calculated Value	-
IT Depreciation			
IT Depreciation(%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.85%	11.66%	13.41%	10.50%
O&M	11.84%	11.66%	11.47%	-107.61%
Project Cost	13.41%	11.66%	10.20%	-10.43%
Tariff Rate	9.85%	11.66%	13.41%	10.50%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.66%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

9. ZF Rane Automotive India Private Limited (Virmalai)

Details of the project		Source	Link
State where the project is situated	Tamil Nadu		
Total Capacity (MW)	0.690		
Date of Commissioning	23-Aug-23		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	1,148,436	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.48	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.37	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	36.57	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		

Equity Investment (INR Mn.)	36.57		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	36.57	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/s_m_3.pdf
Salvage value (INR Mn.)	3.66	Calculated Value	
Net Depreciable Value (INR Mn.)	32.91	Calculated Value	
Residual Value (INR Mn.)	3.66	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rate%20s.htm
Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf

Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.84%	11.65%	13.40%	10.58%
O&M	11.83%	11.65%	11.46%	-108.48%
Project Cost	13.40%	11.65%	10.18%	-10.49%
Tariff Rate	9.84%	11.65%	13.40%	10.58%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.65%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

10. ZF Rane Automotive India Private Limited (Gudvancherry)

Details of the project		Source	Link
State where the project is situated	Tamil Nadu		
Total Capacity (MW)	0.560		
Date of Commissioning	2-Aug-23		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf

Annual generation (kWh)	932,064	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.39	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.30	CERC order	http://www.cercind.gov.in/2016/orders/S017.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	29.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	29.68		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	29.68	Calculated Value	

Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	2.97	Calculated Value	
Net Depreciable Value (INR Mn.)	26.71	Calculated Value	
Residual Value (INR Mn.)	2.97	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2023-24		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources/htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2023-24 for a domestic company	https://taxguru.in/income-tax/income-tax-rates-fy-2023-24-ay-2024-25.html
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.85%	11.66%	13.41%	10.50%
O&M	11.84%	11.66%	11.47%	-107.61%
Project Cost	13.41%	11.66%	10.20%	-10.43%

Tariff Rate	9.85%	11.66%	13.41%	10.50%
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Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.66%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

11. Tata BlueScope Steel Private Limited

Details of the project		Source	Link
State where the project is situated	Jharkhand		
Total Capacity (MW)	1.426		
Date of Commissioning	5-May-22		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	2,373,434	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	1.00	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.76	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-

Financial parameters			
TOTAL COST (INR Mn.)	75.58	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	75.58		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	75.58	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	7.56	Calculated Value	
Net Depreciable Value (INR Mn.)	68.02	Calculated Value	
Residual Value (INR Mn.)	7.56	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		

		domestic company	
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.88%	11.67%	13.40%	10.55%
O&M	11.85%	11.67%	11.49%	-107.79%
Project Cost	13.40%	11.67%	10.22%	-10.48%
Tariff Rate	9.88%	11.67%	13.40%	10.55%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.67%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

12. Rane Madras Limited

Details of the project		Source	Link
State where the project is situated	Tamil Nadu		
Total Capacity (MW)	0.760		

Date of Commissioning	13-Jun-23		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	1,264,944	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Escalation in tariff rate	0.0%		-
Transmission & Wheeling Losses (%)	0.0%		-
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	0.53	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.40	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	40.28	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	40.28		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		

Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	40.28	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/s_m_3.pdf
Salvage value (INR Mn.)	4.03	Calculated Value	
Net Depreciable Value (INR Mn.)	36.25	Calculated Value	
Residual Value (INR Mn.)	4.03	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY - 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//ht docs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	

MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.88%	11.67%	13.40%	10.55%
O&M	11.85%	11.67%	11.49%	-107.79%
Project Cost	13.40%	11.67%	10.22%	-10.48%
Tariff Rate	9.88%	11.67%	13.40%	10.55%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.67%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

13. Premium Transmission Private Limited

Details of the project		Source	Link
State where the project is situated	Maharashtra		
Total Capacity (MW)	0.480		
Date of Commissioning	23-Jan-23		
Life of the plant (Yrs.)	25	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Generation of electricity			
PLF (%)	19.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Annual generation (kWh)	798,912	Calculated Value	
Annual Degradation per year	0.50%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Tariff rate at the decision making (INR/kWh)	5.68	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Operation and maintenance cost and Insurance			

O & M Expenses (INR Mn.)	0.34	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
O & M free for (Yr.)	-		
Escalation in the operational expenses (%)	5.72%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Insurance (INR Mn.)	0.25	CERC order	http://www.cercind.gov.in/2016/orders/SO17.pdf
Administrative expenses			-
Financial parameters			
TOTAL COST (INR Mn.)	25.44	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Loan Amount (INR Mn.)	-		
Equity Investment (INR Mn.)	25.44		
Term loan			
Loan Amount (INR Mn.)			-
Interest rate (%)			-
Loan Tenure (Qtr.)			-
Moratorium Period (Qtr.)	-		
Repayment Period (Qtr.)	-		-
Repayment instalments value (INR Mn.)			-
1st instalment from (Qtr. end)			-
Book Depreciation (SLM Method)			
Land	-		
Gross Depreciable Value (INR Mn.)	25.44	Calculated Value	
Salvage Value (%)	10.00%	As per CERC Order	https://cercind.gov.in/2016/orders/sm_3.pdf
Salvage value (INR Mn.)	2.54	Calculated Value	
Net Depreciable Value (INR Mn.)	22.90	Calculated Value	
Residual Value (INR Mn.)	2.54	Calculated Value	-
IT Depreciation			

IT Depreciation (%)	7.69%	As Per Depreciation Rates for Power Generating Units	https://incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			
Financial Year	FY 2022-23		
Income tax rate (%)	30.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
MAT (%)	15.00%		
GST	18.00%	As Per Income Tax Rule	https://old.cbic.gov.in/resources//htdocs-cbec/gst/Work%20Contracts%20in%20GST.pdf
Surcharge (%)	7.00%	Tax rated applicable@ FY 2022-23 for a domestic company	https://incometaxindia.gov.in/Booklets%20%20Pamphlets/e-Pdf-INCOME-TAX-RATES-english-2022.pdf
Education cess (%)	4.00%		
Final Tax rates			
Income tax rate (%)	33.38%	Calculated Value	
MAT (%)	16.69%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sensitivity Analysis:

Variation %	-10%	Normal	10%	Breaching Value
PLF	9.86%	11.64%	13.37%	10.76%
O&M	11.82%	11.64%	11.46%	-109.55%
Project Cost	13.37%	11.64%	10.20%	-10.66%
Tariff Rate	9.86%	11.64%	13.37%	10.76%

Conclusion:

Equity IRR without CDM	Benchmark (Equity IRR)
11.64%	13.50%

As equity IRR is less than the benchmark, this instance is assessed to be additional.

Since most the activity instances are commissioned, the actual parameters applicable for the project activity instances are cross-checked by the verification team. Though the actual project cost of the activity instances has been found to be less than the assumed values of project cost, the actual tariff rates as per the long term power purchase agreements signed are significantly lower. Thus, the verification team cross-checked the equity IRR calculation by considering the actual values of project cost and PLF and observed that the values of equity IRR for all the instances decrease with the actual project cost and PLF. The verification team also checked the generation values of some of the newly added operational instances and found that the actual PLF realised are lower than the PLF assumed by the project proponent for equity IRR calculation. The O&M cost does not put any major impact on the equity IRR calculation than as observed even reducing the O&M cost by more than 100% for all the activity instances does not breach the benchmark.

Therefore, the verification team comes to a conclusion that the investment in the newly added activity instances is not financially attractive as the Equity IRR for all the project activity instances is less than the Benchmark Equity IRR).

Common Practice Analysis

Not Applicable as this is a small-scale project activity.

APPENDIX 6: CALIBRATION DETAILS

Calibration Detail							
Sl. No	SPV Name	Meter Serial No	Make	Accuracy class	Date of Commissioning	Pre-Calibrated & tested meter Installed on	Validity of calibration
1	Tinplate Company	540180185287	Schneider	0.5	01-Oct-20	01-Oct-20	30-Sept-25
2	Duraline India Private Limited	540180126068	Schneider	1	07-Oct-20	07-Oct-20	06-Oct-25
		540180139276	Schneider	1	07-Oct-20	07-Oct-20	06-Oct-25
3	GE T&D India Limited	540180078599	Schneider	1	11-Oct-20	11-Oct-20	10-Oct-25
4	Arya Anathalay I	540180144423	Schneider	0.5	20-Dec-20	20-Dec-20	19-Dec-25
5	Time of India, Airoli	18057019	L&T	1	19-Jan-21	19-Jan-21	18-Jan-26
		540180052157	Schneider	1	19-Jan-21	19-Jan-21	18-Jan-26
6	Asian Paints Limited	540180139576	Schneider	1	18-Feb-21	18-Feb-21	17-Feb-26

7	Time of India, Kolkata	540180178009	Schneider	0.5	22-Feb-21	22-Feb-21	21-Feb-26
8	TATA Lockheed Martin	540180169779	Schneider	1	03-Mar-21	03-Mar-21	02-Mar-26
9	TSPDCL, Demag	540180151744	Schneider	0.5	31-Mar-21	31-Mar-21	30-Mar-26
		540180146357	Schneider	0.5	31-Mar-21	31-Mar-21	30-Mar-26
10	Apollo Gleneagles Hospital Limited	540180177968	Schneider	0.5	01-Apr-21	01-Apr-21	31-Mar-26
		X1255380	Secure	0.5	01-Apr-21	01-Apr-21	31-Mar-26
11	Tata Metaliks Limited	21022500097	L&T	0.5	15-May-21	15-May-21	14-May-26
12	Arya Anathalay II	540180139208	Schneider	0.5	03-Jun-21	03-Jun-21	02-Jun-26
13	Tata Motors Limited (Car Plant)	540180176580	Conzerv	0.5	18-Jun-21	18-Jun-21	17-Jun-26
		540180182808	Conzerv	0.5			
		540180179809	Conzerv	0.5			
		540180183090	Conzerv	0.5			
		540180182394	Conzerv	0.5			
		540180182582	Conzerv	0.5			
		540180183109	Conzerv	0.5			
		540180183111	Conzerv	0.5			
		540180183651	Conzerv	0.5			
		540180179814	Conzerv	0.5			
		540180183131	Conzerv	0.5			

		54018018254 1	Conzerv	0.5			
		54018018252 0	Conzerv	0.5			
		54018018375 3	Conzerv	0.5			
		54018018302 2	Conzerv	0.5			
		54018018282 1	Conzerv	0.5			
		54018018314 0	Conzerv	0.5			
		54018018307 4	Conzerv	0.5			

For New Instance added:

Sl. No	Customer				Accuracy Class	Date of Commissioning	Pre-Calibrated & tested meter Installed on	Validity of calibration
			Meter Serial No	Make				
1	Tata Steel Limited (Odisha)	TSK Steelanium	Upcoming	Secure	NA	NA	NA	NA
		TSK SMS	Upcoming		NA	NA	NA	NA
		TSK MWTP	X1920714		0.2s	NA	01-November-2022	31-October-2027
		TSK HSM E/W	Upcoming		NA	NA	NA	NA
		TSK HSM N/S	X1920718		0.2s	NA	20-February-2023	19-February-2028
2	Tata Steel Limited (Odisha)	TSK RWR	ORA00147	Secure	0.2s	NA	14-February-2023	13-February-2028
3	Tata Steel Limited	TSL Jamshedpur CWH	X1920712	Secure	0.2s	21-September-2022	01-February-2022	31-January-2027

	(Jharkhand)	TSL Jamshedpur WRM	X1920715		0.2s	29-December-2022	01-February-2022	31-January-2027
		TSL Jamshedpur CRM	Upcoming		-	Upcoming	-	-
		TSL, HSM	X1920713		0.2s	23-March-2023	01-February-2022	31-January-2027
4	Tata Steel Limited (Jharkhand)	TSL UCP	Upcoming	-	-	Upcoming	-	-
5	Tata Electronics Private Limited	Assembly building 1	04013516	L&T	0.5s	07-February-2023	25-January-2023	24-January-2028
			04013515	L&T		07-February-2023	25-January-2023	24-January-2028
		DM plant	Upcoming	-	NA	NA	NA	NA
		BMB 1 Building	04013517	L&T	0.5s	07-February-2023	25-January-2023	24-January-2028
		BMB 2 Building	04013520	L&T	0.5s	07-February-2023	25-January-2023	24-January-2028
			04013519	L&T		07-February-2023	25-January-2023	24-January-2028
		Ano building	Upcoming	NA	NA	NA	NA	NA
6	Kejriwal Castings Limited		To be updated	To be updated	To be updated	To be updated	To be updated	To be updated
7	The Tinplate Company of India Limited- Ph-02		540180171697	Schnider	0.5s	0.5s	11-September-2020	10-September-2025
			540180185551	Schnider		31-December-2022	11-September-2020	10-September-2025

		540180143000	Schnider		31-December-2022	24-January-2020	23-January-2025
		540180171717	Schnider		31-December-2022	05-March-2020	04-March-2025
		540180171711	Schnider		31-December-2022	11-September-2020	10-September-2025
		540180185545	Schnider		31-December-2022	11-September-2020	10-September-2025
		540180171934	Schnider		31-December-2022	06-March-2020	05-March-2025
		540180185541	Schnider		31-December-2022	11-September-2020	10-September-2025
8	Mplastics Toys & Engineering Private Limited	540180310589	Schnider	0.5s	22-February-2023	27-January-2023	26-January-2028
		540180310589	Schnider	0.5s	22-February-2023	27-January-2023	26-January-2028
9	ZF Rane Automotive India Private Limited (Virmalai)	82257917, 82257911, 82257942	Secure	0.2s	23-August-2023	09-March-2023.	08-March-2028
10	ZF Rane Automotive India Private Limited (Gudvancherry)	82257925	Secure	0.5s	18-January-2024	18-January-2024	01-August-2028
11	Tata BlueScope Steel Private Limited.	540180177465	Schnider	0.5s	0.5s	27-April-2020	26-April-2025
		540180177470	Schnider		0.5s	27-April-2020	26-April-2025
		540180177460	Schnider		0.5s	27-April-2020	26-April-2025
		540180174061	Schnider		0.5s	13-March-2020	12-March-2025

		54018014 7387	Schnider		0.5s	03-October-2019	02-October-2024
		54018017 1976	Schnider		0.5s	06-March-2020	05-March-2025
12	Rane Madras Limited	X1968663	Secure	0.5s	13-June-2013	11-June-2022	10-June-2027
		549190305 757	Scneider		13-June-2013	22-December-2022	21-December-2027
13	Premium Transmission Private Limited	X1913290	Secure	0.5s	23-January-2023	25-February-2022	24-February-2027
		X1719071	Secure		23-January-2023	29-July-2021	28-July-2026

APPENDIX 7: COMPETENCY STATEMENTS



**CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE**

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Vinay SINGH

è qualificato come¹:
is qualified as:

TEC – VAL – VER – TL – ITRP – REG-EXP³

nello schema²:
for the scheme:

CDM – VCS – SCS – JI – ISO14064-2

per le seguenti aree tecniche:
for the following technical areas:

1.2 – 14.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
14.1	Forestry	14

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	04/05/2020	First Issue
2	11/03/2022	Updated form

Il Resp. OU
Head of OU



¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
REG-EXP: Regional Expert
ITR: Independent Reviewer
DET: Determiner

² Legend:

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS4GG: Gold Standard for Global Goals
SCS: SocialCarbon Standard
JI: Joint Implementation
ISO14064-2: International standard 14064 part 2

³India, Kenya, Uganda, Sri Lanka, Thailand, Mauritius.

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologic Institute per condurre la Validazione e la Verifica di rapporti SCS.

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologic Institute, to carry out Validation and Verification of SCS Reports.

GHG_QUAL_CERT_EN(06-2021)

Page 1 of 1



CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Shruti KUDTARKAR

è qualificato come¹:
is qualified as:

TL – VAL – VER – TEC – ITR

nello schema²:
for the scheme:

CDM – VCS – GS4GG – JI – SCS – UER – CCB – ISO14064-2

per le seguenti aree tecniche:
for the following technical areas:

1.2 – 13.1 – 13.2

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.2	Renewables	1
13.1	Solid Waste and wastewater	13
13.2	Manure	13

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	03/12/2012	-
6	10/03/2022	Updated qualification as ITR

Il Resp. OU
Head of OU



¹ Legend:
VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
REG-EXP: Regional Expert
ITR: Independent Reviewer
DET: Determiner

² Legend:
CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS4GG: Gold Standard for Global Goals
SCS: SocialCarbon Standard
JI: Joint Implementation
ISO14064-2: International standard 14064 part 2
UER: Upstream Emission Reduction
CCB: The Climate, Community & Biodiversity Alliance

RNA Services S.p.A. è accreditata da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VGSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologia Institute per condurre la Validazione e la Verifica di rapporti SCS.

RNA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VGSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologia Institute, to carry out Validation and Verification of SCS Reports.

GHG_QUAL_CERT_EN(08-2021)

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