



Bundled Wind Power Project by Giriraj Enterprises



Document Prepared by EKI Energy Services Limited

Project Title	Bundled Wind Power Project by Giriraj Enterprises
Version	03
Report ID	1669
Date of Issue	20-September-2021
Project ID	1669
Monitoring Period	01-January-2021 to 30-June-2021 (first and last date included)
Prepared By	EKI Energy Services Limited
Contact	Mohammad Moonis Manager-Operations Email ID : moonis@enkingint.org and registry@enkingint.org T +91 731 42 89 086, M +91 9910771187 Address: Office no. 201, Plot 48, Scheme 78, part 2 Vijay Nagar, Near Brilliant Convention Centre Indore - 452010 (M.P, India) Website www.enkingint.org

CONTENTS

1	PROJECT DETAILS.....	4
1.1	Summary Description of the Implementation Status of the Project.....	4
1.2	Sectoral Scope and Project Type	6
1.3	Project Proponent	6
1.4	Other Entities Involved in the Project	6
1.5	Project Start Date	6
1.6	Project Crediting Period	12
1.7	Project Location	12
1.8	Title and Reference of Methodology	18
1.9	Participation under other GHG Programs.....	18
1.10	Other Forms of Credit	18
1.11	Sustainable Development	19
2	SAFEGUARDS	19
2.1	No Net Harm.....	20
2.2	Local Stakeholder Consultation	20
2.3	AFOLU-Specific Safeguards	20
3	IMPLEMENTATION STATUS	20
3.1	Implementation Status of the Project Activity	21
3.2	Deviations	23
3.3	Grouped Projects.....	24
4	DATA AND PARAMETERS.....	24
4.1	Data and Parameters Available at Validation	24
4.2	Data and Parameters Monitored	26
4.3	Monitoring Plan	27
5	QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS.....	29
5.1	Baseline Emissions.....	29
5.2	Project Emissions.....	30

5.3	Leakage	30
5.4	Net GHG Emission Reductions and Removals.....	30
APPENDIX I: CALIBRATION DETAILS		31
APPENDIX II: BREAKDOWN DETAILS		34

1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The project activity generates power using renewable energy source (wind energy) and sell the power generated to the state grid. The generated electricity is exported to the regional grid system which is under the purview of the INDIAN electricity grid of India.

The wind power generated from the Project displaces the electricity generated from grid connected power stations feeding into Indian grid (Indian Electricity Grid). Since, the wind power is Green House Gas (GHG) emissions free, the power generated prevents the anthropogenic GHG emissions generated by the fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only.

The project activity involves the installation of Wind Power Projects. During the time of registration the total installed capacity of the project was 112.5 MW. After that it was downsized to 96 MW which was approved in the second monitoring period. Further to this, the 3 MW WTG from the total capacity of 12 MW at Vejalpar site, Morbi, Gujarat has been sold upon permission from Gujarat Energy Development Agency (GEDA). The reason for that was internal restructuring within the organization of Giriraj Enterprises. So, the project capacity stood at 93.0 MW in the last monitoring period (01-March-2020 to 31-December-2020). Further to this, the project activity has downsized to 90 MW in January 2021 and 88.5 MW From 01-February-2021 onwards. So the project capacity presently stands at 88.5 MW. The details of the project are given below:

Sr. No.	Project Type	Project Capacity (in MW)	Owner of Project	Project Location	State
1	Wind	30 MW	Giriraj Enterprises	Hatuniya Site, Mandsaur	Madhya Pradesh
2	Wind	22.5 MW	Giriraj Enterprises	Dewas Site, Dewas	Madhya Pradesh
3	Wind	21 MW	Giriraj Enterprises	Dhar Site, Dhar	Madhya Pradesh
4	Wind	6.0 MW (From 01-January-2021 to 31-January-	Giriraj Enterprises	Vejalpar Site, Morbi	Gujarat

		2021) 4.5 MW (From 01-February-2021 to 30-June-2021)			
5	Wind	10.5 MW	Giriraj Enterprises	Vejalpar Site, Morbi	Gujarat

The entire capacity of 90 MW and 88.5 MW of the project activity has already been commissioned and the commissioning details are provided in the section 1.5 of the Monitoring Report. It is to be noted that at the time of registration the total capacity of the project was 112.5 MW, but later it was downsized to 96 MW. The above deviation is approved during the 2nd monitoring period.

Further to this, the 3 MW WTG from the total capacity of 12 MW at Vejalpar site, Morbi, Gujarat has been sold. The reason for this is due to the internal restructuring within the organization of Giriraj Enterprises. Again 3 MW WTG from the total capacity of 9 MW were sold upon in January-2021. After that 1.5 MW WTG from the remaining capacity of 6 MW in February-2021 bringing the total capacity to 4.5 MW from February-2021 onwards. The sold WTG is not the part of this monitoring and verification period. The details of sold WTG are mentioned in the table below.

Sr. No	Firm	Project	WTG Nos	Date of Transfer
1	GE	Vejalpar (Guj)	PVKH 13	01-12-20
3	GE	Vejalpar (Guj)	PVKH 20	01-01-20
4	GE	Vejalpar (Guj)	PVKH 21	01-02-21
5	GE	Vejalpar (Guj)	PVKH 25	01-01-20
6	GE	Vejalpar (Guj)	PVKH 17	01-01-21

Hence, at present the project capacity stands at 90.0 MW in January-2021 and 88.5 MW in February-2021 onwards. So, the present capacity of the project is 88.5 MW.

The Project activity is a new facility (Greenfield) and the purpose of the project activity is to generate energy electricity by the utilization of renewable wind technology and further selling the generated energy to the Indian Grid. In this process there is no consumption of any fossil fuel and hence the project does not lead to any greenhouse gas emissions. Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

In the Pre- project scenario the entire electricity, delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

Total emission reductions achieved in this monitoring period:

During the Current Monitoring Period from 01-January-2021 to 30-June-2021 (First and last date included) the project activity has supplied 85,153 MWh of electricity, and thus contributing to the GHG reductions 83,279 tCO₂e.

1.2 Sectoral Scope and Project Type

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

Sectoral Scope: 01 - Energy industries (renewable / non-renewable sources)

Project Type: I - Renewable Energy Projects

Methodology:ACM0002: Grid-connected electricity generation from renewable sources- Version 17.0¹

The project is not a grouped project activity.

1.3 Project Proponent

Organization name	Giriraj Enterprises
Contact person	Mr. PrafullaKhinvasara
Title	CEO- Renewable Power Projects
Address	Malpani House, New Nagar Road, Tal- Sangamner, Dist - Ahmednagar, Maharashtra, India
Telephone	+91-2425-433010
Email	kpraful@malpani.com

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Mohammad Moonis
Title	Manager-Operations
Address	Office No. 201, EnKing Embassy, Plot No. 48, Scheme No. 78,Part II, Vijay Nagar, Indore, M.P. - 452010, India.
Telephone	+91 9910771187
Email	moonis@enkingint.org / registry@enkingint.org

1.5 Project Start Date

Project Start Date: 31-March-2015.

¹<http://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

The project start date is the date of earliest commissioning date of WTG. The individual project activities details are mentioned below:

S. No.	Project Owner	Machine ID	DOC ²	Village	Taluka	District	State
1	Giriraj Enterprises	RISPL/1500/1 6-17/4049	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
2	Giriraj Enterprises	RISPL/1500/1 6-17/4050	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
3	Giriraj Enterprises	RISPL/1500/1 6-17/4051	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
4	Giriraj Enterprises	RISPL/1500/1 6-17/4052	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
5	Giriraj Enterprises	RISPL/1500/1 6-17/4053	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
6	Giriraj Enterprises	RISPL/1500/1 6-17/4054	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
7	Giriraj Enterprises	RISPL/1500/1 6-17/4055	02-March-2017	Kumbhariya	Morbi	Morbi	Gujarat
8	Giriraj Enterprises	RISPL/1500/1 6-17/4542	31-March-2017	Khakhrechi	Maliya	Morbi	Gujarat
9	Giriraj Enterprises	RISPL/1500/1 6-17/4543	March-2017	Khakhrechi	Maliya	Morbi	Gujarat

²Date Of commissioning

10	Giriraj Enterprises	RISPL/1500/1 6-17/4545	March-2017	Khakhrechi	Maliya	Morbi	Gujarat
11	Giriraj Enterprises	RISPL/1500/1 6-17/4547	March-2017	Khakhrechi	Maliya	Morbi	Gujarat
12	Giriraj Enterprises	RISPL/1500/1 6-17/4548	March-2017	Khakhrechi	Maliya	Morbi	Gujarat
13	Giriraj Enterprises	RISPL/1500/1 6-17/4549	March-2017	Khakhrechi	Maliya	Morbi	Gujarat
14	Giriraj Enterprises	RH3- 01	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
15	Giriraj Enterprises	RH3- 02	31-March-2015	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh
16	Giriraj Enterprises	RH3- 03	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
17	Giriraj Enterprises	RH3- 04	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
18	Giriraj Enterprises	RH3- 05	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
19	Giriraj Enterprises	RH3- 06	31-March-2015	Kankarwa	Jaora,	Ratlam	Madhya Pradesh
20	Giriraj Enterprises	RH3- 07	31-March-2015	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh
21	Giriraj Enterprises	RH3- 08	31-March-2015	Kankarwa	Jaora,	Ratlam	Madhya Pradesh
22	Giriraj Enterprises	RH3- 09	31-March-	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh

			2015				
23	Giriraj Enterprises	RH3- 10	31-March-2015	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh
24	Giriraj Enterprises	RH4- 01	31-March-2015	Jogikheda	Mandsaur	Mandsaur	Madhya Pradesh
25	Giriraj Enterprises	RH4- 02	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
26	Giriraj Enterprises	RH4- 03	31-March-2015	Kuchdod	Mandsaur	Mandsaur	Madhya Pradesh
27	Giriraj Enterprises	RH4- 04	31-March-2015	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh
28	Giriraj Enterprises	RH4- 05	31-March-2015	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh
29	Giriraj Enterprises	RH4- 06	31-March-2015	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh
30	Giriraj Enterprises	RH4- 07	31-March-2015	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh
31	Giriraj Enterprises	RH4- 08	31-March-2015	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh
32	Giriraj Enterprises	RH4- 09	31-March-2015	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh
33	Giriraj Enterprises	RH4- 10	31-March-2015	Kuchdod	Mandsaur	Mandsaur	Madhya Pradesh
34	Giriraj	TK- 01	30-	BhojPura	TonkKhurd	Dewas	Madhya

	Enterprises		May-2016				Pradesh
35	Giriraj Enterprises	TK- 04	30-May-2016	BhojPura	TonkKhurd	Dewas	Madhya Pradesh
36	Giriraj Enterprises	TK- 05	30-May-2016	BhojPura	TonkKhurd	Dewas	Madhya Pradesh
37	Giriraj Enterprises	TK- 06	30-May-2016	BhojPura	TonkKhurd	Dewas	Madhya Pradesh
38	Giriraj Enterprises	TK- 07	30-May-2016	BhojPura	TonkKhurd	Dewas	Madhya Pradesh
39	Giriraj Enterprises	TK- 08	30-May-2016	BhojPura	TonkKhurd	Dewas	Madhya Pradesh
40	Giriraj Enterprises	TK- 09	30-May-2016	Devli	TonkKhurd	Dewas	Madhya Pradesh
41	Giriraj Enterprises	TK- 10	30-May-2016	Devli	TonkKhurd	Dewas	Madhya Pradesh
42	Giriraj Enterprises	TK- 12	30-May-2016	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh
43	Giriraj Enterprises	TK- 14	30-May-2016	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh
44	Giriraj Enterprises	TK- 02	30-May-2016	BhojPura,	TonkKhurd	Dewas	Madhya Pradesh
45	Giriraj Enterprises	TK- 13	30-May-2016	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh

46	Giriraj Enterprises	TK- 15	30-May-2016	Sankely	TonkKhurd	Dewas	Madhya Pradesh
47	Giriraj Enterprises	TK- 16	30-May-2016	Sankely	TonkKhurd	Dewas	Madhya Pradesh
48	Giriraj Enterprises	TK- 17	30-May-2016	Sankely	TonkKhurd	Dewas	Madhya Pradesh
49	Giriraj Enterprises	TIR- 04	31-March-2016	Labrawada	Dhar	Dhar	Madhya Pradesh
50	Giriraj Enterprises	TIR- 05	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
51	Giriraj Enterprises	TIR- 07	31-March-2016	Kalukhedi	Dhar	Dhar	Madhya Pradesh
52	Giriraj Enterprises	TIR- 09	31-March-2016	Kalukhedi	Dhar	Dhar	Madhya Pradesh
53	Giriraj Enterprises	TIR- 10	31-March-2016	Chikliya	Dhar	Dhar	Madhya Pradesh
54	Giriraj Enterprises	TIR- 03	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
55	Giriraj Enterprises	TIR- 06	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
56	Giriraj Enterprises	TIR- 12	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
57	Giriraj Enterprises	TIR- 13	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
58	Giriraj Enterprises	TIR- 14	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh

59	Giriraj Enterprises	ADD- 02	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
60	Giriraj Enterprises	ADD- 03	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
61	Giriraj Enterprises	ADD- 04	31-March-2016	Navgaon	Dhar	Dhar	Madhya Pradesh
62	Giriraj Enterprises	ADD- 05	31-March-2016	Khilchipura	Dhar	Dhar	Madhya Pradesh

1.6 Project Crediting Period

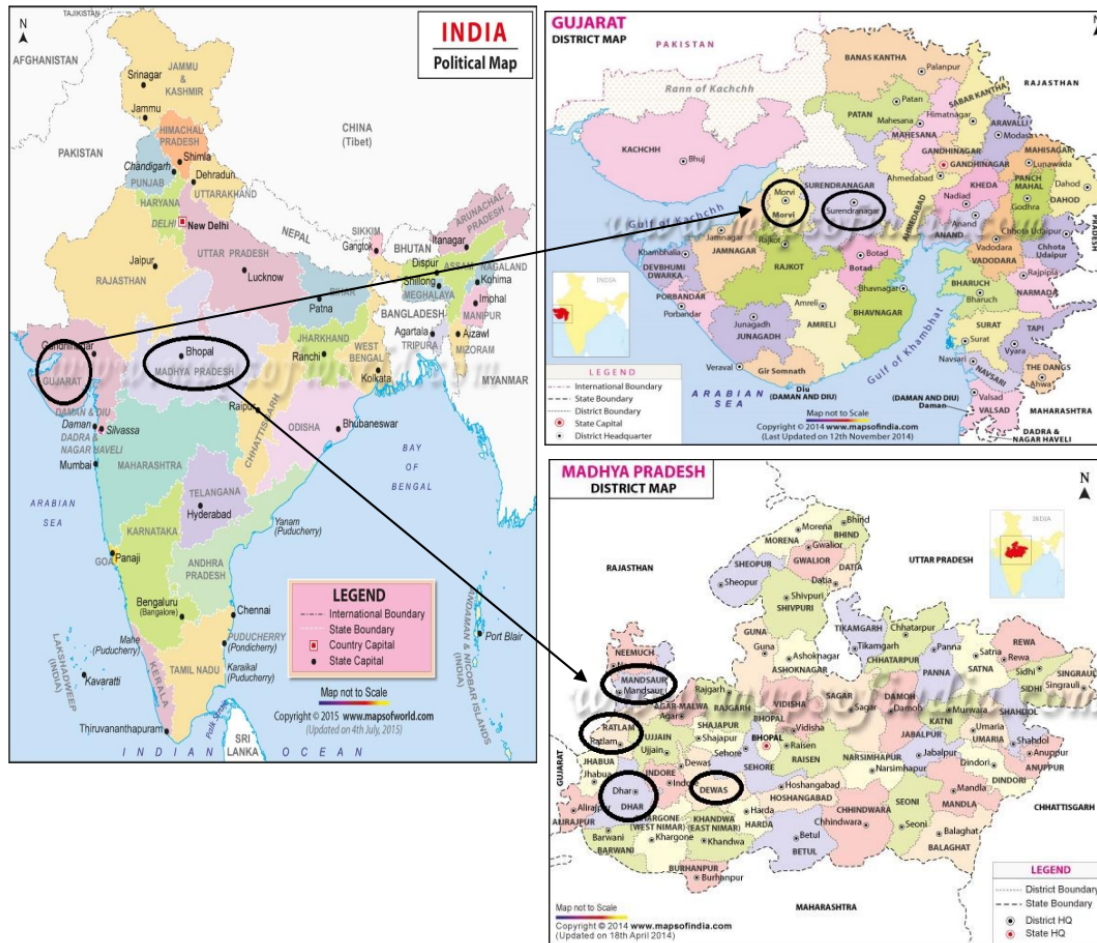
Crediting Period Start date: 31-March-2015

Crediting Period End date: 30-March-2025

The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times.

1.7 Project Location

The project location has been highlighted in the geographical map shown below



The Geo Coordinates of the project locations have been mentioned in the table below:

S. No	Project Owner	Machine ID	Village	Taluka	District	State	Latitude	Longitude
1	Giriraj Enterprises	RISPL/1500 /16-17/4049	Kumbhariya	Morbi	Morbi	Gujarat	23° 07' 38.4492	76° 56' 49.0040"
2	Giriraj Enterprises	RISPL/1500 /16-17/4050	Kumbhariya	Morbi	Morbi	Gujarat	23° 08' 13.4232	76° 56' 36.1521"
3	Giriraj Enterprises	RISPL/1500 /16-17/4051	Kumbhariya	Morbi	Morbi	Gujarat	23° 08' 05.4420	76° 56' 53.2250"
4	Giriraj Enterprises	RISPL/1500 /16-17/4052	Kumbhariya	Morbi	Morbi	Gujarat	23° 07' 58.2384	76° 58' 13.4000"

5	Giriraj Enterprises	RISPL/1500 /16-17/4053	Kumbharia	Morbi	Morbi	Gujarat	23° 07' 52.4352 "	76° 56' 48.2921"
6	Giriraj Enterprises	RISPL/1500 /16-17/4054	Kumbharia	Morbi	Morbi	Gujarat	23° 08' 04.5960 "	76° 57' 58.8007"
7	Giriraj Enterprises	RISPL/1500 /16-17/4055	Kumbharia	Morbi	Morbi	Gujarat	23° 07' 28.3728 "	76° 57' 54.4416"
8	Giriraj Enterprises	RISPL/1500 /16-17/4542	Khakhrechi	Maliya	Morbi	Gujarat	23° 04' 36.4872 "	76° 53' 03.0658"
9	Giriraj Enterprises	RISPL/1500 /16-17/4543	Khakhrechi	Maliya	Morbi	Gujarat	23° 05' 11.8644 "	76° 53' 04.9294"
10	Giriraj Enterprises	RISPL/1500 /16-17/4545	Khakhrechi	Maliya	Morbi	Gujarat	23° 05' 00.0420 "	76° 52' 42.3122"
11	Giriraj Enterprises	RISPL/1500 /16-17/4547	Khakhrechi	Maliya	Morbi	Gujarat	23° 05' 07.5228 "	76° 53' 19.9076"
12	Giriraj Enterprises	RISPL/1500 /16-17/4548	Khakhrechi	Maliya	Morbi	Gujarat	23° 04' 35.1336 "	76° 53' 53.5708"
13	Giriraj Enterprises	RISPL/1500 /16-17/4549	Khakhrechi	Maliya	Morbi	Gujarat	23° 05' 18.3840 "	76° 53' 57.6920"
14	Giriraj Enterprises	RH3- 01	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 53' 55.3848 "	81° 14' 00.4539"
15	Giriraj Enterprises	RH3- 02	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh	23° 52' 51.1176"	81° 13' 50.1898"
16	Giriraj Enterprises	RH3- 03	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 53' 15.6300 "	81° 13' 52.2136"
17	Giriraj Enterprises	RH3- 04	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 53' 45.4092 "	81° 14' 18.1189"
18	Giriraj Enterprises	RH3- 05	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 53' 50.4636	81° 14' 08.8622"

							"	
19	Giriraj Enterprises	RH3- 06	Kankarwa	Jaora	Mandsaur	Madhya Pradesh	23° 51' 36.6264 "	81° 13' 46.2748"
20	Giriraj Enterprises	RH3- 07	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh	23° 52' 34.2552 "	81° 14' 02.0410"
21	Giriraj Enterprises	RH3- 08	Kankarwa	Jaora	Mandsaur	Madhya Pradesh	23° 51' 31.3164 "	81° 13' 54.2911"
22	Giriraj Enterprises	RH3- 09	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh	23° 52' 05.6028 "	81° 13' 22.5297"
23	Giriraj Enterprises	RH3- 10	Bholiya	Mandsaur	Mandsaur	Madhya Pradesh	23° 51' 57.0204 "	81° 13' 20.6057"
24	Giriraj Enterprises	RH4- 01	Jogikheda	Mandsaur	Mandsaur	Madhya Pradesh	23° 55' 44.0760 "	81° 13' 01.3611"
25	Giriraj Enterprises	RH4- 02	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 54' 41.4036 "	81° 13' 35.2470"
26	Giriraj Enterprises	RH4- 03	Kuchdod	Mandsaur	Mandsaur	Madhya Pradesh	23° 54' 29.5380 "	81° 14' 57.4242"
27	Giriraj Enterprises	RH4- 04	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh	23° 55' 26.4576 "	81° 13' 22.4496"
28	Giriraj Enterprises	RH4- 05	Ratikhedi	Mandsaur	Mandsaur	Madhya Pradesh	23° 54' 32.5872 "	81° 13' 38.4149"
29	Giriraj Enterprises	RH4- 06	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh	23° 55' 36.1776 "	81° 13' 23.8105"
30	Giriraj Enterprises	RH4- 07	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh	23° 55' 31.0548 "	81° 14' 19.1617"
31	Giriraj Enterprises	RH4- 08	KhajuriAnjana	Mandsaur	Mandsaur	Madhya Pradesh	23° 55' 18.7068 "	81° 13' 29.2986"
32	Giriraj	RH4- 09	KhajuriAnj	Mandsaur	Mands	Madhya	23° 54'	81° 14'

	Enterprises		ana		aur	Pradesh	41.8464 "	45.3159"
33	Giriraj Enterprises	RH4- 10	Kuchdod	Mandsaur	Mands aur	Madhya Pradesh	23° 54' 33.3612 "	81° 14' 45.5120"
34	Giriraj Enterprises	TK- 01	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 05' 00.6252 "	82° 15' 42.1007"
35	Giriraj Enterprises	TK- 04	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 05' 31.8588 "	82° 15' 39.8266"
36	Giriraj Enterprises	TK- 05	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 05' 44.5272 "	82° 15' 37.3439"
37	Giriraj Enterprises	TK- 06	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 05' 53.0052 "	82° 15' 38.1612"
38	Giriraj Enterprises	TK- 07	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 01.4472 "	82° 15' 39.4702"
39	Giriraj Enterprises	TK- 08	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 09.8568 "	82° 15' 40.9898"
40	Giriraj Enterprises	TK- 09	Devli	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 18.1944 "	82° 15' 39.5913"
41	Giriraj Enterprises	TK- 10	Devli	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 30.4740 "	82° 15' 44.6623"
42	Giriraj Enterprises	TK- 12	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 42.4404 "	82° 16' 05.0565"
43	Giriraj Enterprises	TK- 14	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh	23° 07' 11.2584 "	82° 15' 35.2710"
44	Giriraj Enterprises	TK- 02	BhojPura	TonkKhurd	Dewas	Madhya Pradesh	23° 05' 06.8244 "	82° 15' 27.0816"
45	Giriraj Enterprises	TK- 13	Ranayal Kala	TonkKhurd	Dewas	Madhya Pradesh	23° 07' 03.6336 "	82° 16' 05.7477"

46	Giriraj Enterprises	TK- 15	Sankely	TonkKhurd	Dewas	Madhya Pradesh	23° 06' 55.4580 "	82° 16' 35.7260"
47	Giriraj Enterprises	TK- 16	Sankely	TonkKhurd	Dewas	Madhya Pradesh	23° 07' 22.2060 "	82° 16' 04.9380"
48	Giriraj Enterprises	TK- 17	Sankely	TonkKhurd	Dewas	Madhya Pradesh	23° 07' 33.5352 "	82° 15' 59.0681"
49	Giriraj Enterprises	TIR- 04	Labrawad a	Dhar	Dhar	Madhya Pradesh	22° 38' 02.7636 "	81° 15' 53.0078"
50	Giriraj Enterprises	TIR- 05	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 38' 26.1024 "	81° 16' 18.3134"
51	Giriraj Enterprises	TIR- 07	Kalukhedi	Dhar	Dhar	Madhya Pradesh	22° 38' 30.7356 "	81° 16' 10.4044"
52	Giriraj Enterprises	TIR- 09	Kalukhedi	Dhar	Dhar	Madhya Pradesh	22° 38' 36.6648 "	81° 16' 03.5137"
53	Giriraj Enterprises	TIR- 10	Chikliya	Dhar	Dhar	Madhya Pradesh	22° 37' 52.0104 "	81° 15' 46.2258"
54	Giriraj Enterprises	TIR- 03	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 37' 59.3724 "	81° 16' 16.6493"
55	Giriraj Enterprises	TIR- 06	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 38' 09.5820 "	81° 16' 19.5422"
56	Giriraj Enterprises	TIR- 12	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 39' 03.8196 "	81° 17' 01.1698"
57	Giriraj Enterprises	TIR- 13	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 39' 03.6072 "	81° 17' 28.7447"
58	Giriraj Enterprises	TIR- 14	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 37' 52.8528 "	81° 16' 25.5701"
59	Giriraj	ADD- 02	Navgaon	Dhar	Dhar	Madhya	22° 37' 50.0016	81° 16' 57.2696"

	Enterprises					Pradesh	"	
60	Giriraj Enterprises	ADD- 03	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 38' 26.7720"	81° 17' 03.4761"
61	Giriraj Enterprises	ADD- 04	Navgaon	Dhar	Dhar	Madhya Pradesh	22° 38' 37.4388"	81° 17' 03.6032"
62	Giriraj Enterprises	ADD- 05	Khilchipur a	Dhar	Dhar	Madhya Pradesh	22° 38' 55.9428"	81° 17' 41.4823"

1.8 Title and Reference of Methodology

Methodology: ACM0002: Grid-connected electricity generation from renewable sources - Version 17.0³, Sectoral Scope: 01,

Type I: Energy industries (renewable / non-renewable sources)

Category: Approved Consolidated Methodology (ACM0002)

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

- Tool to calculate the emission factor for an electricity system⁴- Version 05.0 (EB 87, Annex 09)
- Methodological Tool- Tool for the demonstration and assessment of additionality⁵- Version 07.0.0 (EB 70, Annex 08)

1.9 Participation under other GHG Programs

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

1.10 Other Forms of Credit

Emission Trading Programs and Other Binding Limits:

³<https://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

⁴<https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v5.0.pdf>

⁵<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

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

Other Forms of Environmental Credit:

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

Web-link:https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens

1.11 Sustainable Development

Contribution to sustainable development:

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

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

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

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

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

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

2 SAFEGUARDS

2.1 No Net Harm

The project activity has no significant impact on the environment. Wind power projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006⁶ and thus an EIA is not required. Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011, has re-affirmed this and exempted wind power plants from EIA and Environmental Consent requirement.

As per the Schedule 1 of the EIA notification dated 1/12/2009⁷ and latest notification dated 24/12/2013⁸, given by the Ministry of Environment and Forests under the Environment (Protection) Act 1986, the proposed Project activity does not fall under the list of activities requiring EIA as the environmental impacts for such project are not considered as significant by the host Party or PP.

2.2 Local Stakeholder Consultation

The local stakeholder meeting was carried out for the project activity and the details of the same can be referred from the registered VCS PD.

As a part of continual improvement process, feedback from the associated stakeholders is vital, therefore a dedicated Visitor register cum grievance register has been placed at the project site which is accessible to stakeholders to provide their feedback on the project. It is appropriate publicly accessible location at which local stakeholders can provide their feedback on the project. This location is also conducive to continuous and regular checks for stakeholder comments.

The stakeholders are also requested to share their experiences and grievances on continuous basis. Registers is used to records the grievances and feedback. Grievance register is placed at the main gate of site office and is accessible to everyone. During the current monitoring period, no any grievances have been received and thus no any mitigation measures were required. In case of grievances, the nature of probable resolution is discussed with the plant head office and implemented by the site in-charge.

2.3 AFOLU-Specific Safeguards

Not Applicable, as this is not an AFOLU project.

3 IMPLEMENTATION STATUS

⁶<http://envfor.nic.in/legis/eia/so1533.pdf>

⁷<http://moef.nic.in/downloads/rules-and-regulations/3067.pdf>

⁸<http://envfor.nic.in/sites/default/files/ia-24122013.pdf>

3.1 Implementation Status of the Project Activity

The project activity involves the installation of Wind Power Projects. The total installed capacity of the project is 90 MW and 88.5 MW; which involves operation of Wind Turbine Generators (WTGs) in Madhya Pradesh and Gujarat states of India. The details about the location of the project activity has been mentioned in the section 1.7 of this report.

The project has already been commissioned and the commissioning details of the project activity have been mentioned in section 1.5 of this report.

Wind Power Project Technology Details⁹–

The technology employed, converts wind energy to electrical energy. In wind power generation, energy of wind is converted into mechanical energy and subsequently into electrical energy. Wind power generation technology is environment friendly technology since there are no GHG emissions associated with the electricity generation. There is no transfer of technology involved in the project activity.

The project activity comprises a total of 62 WTG's of ReGen Power Tech make.

Particulars	Details
Make	ReGen Powertech
Rated power	1500 kW
Cut-in wind speed	3 m/s
Cut-out wind speed	22 m/s
Survival wind speed	52.5 m/s
Generator	Variable Speed Multi Pole Synchronous
Rotor Diameter	87 m
Swept area	5942 m ²

⁹<http://www.regenpowertech.com/104/technical-data>

Speed Range	9 to 17.3 rpm
Hub Height	85 m
Design	Tubular, Four Sections
Foundation Type	Floating
Control of Output	Pitch Regulation
Speed Control	Variable, micro controller based
Low Voltage Ride Through (LVRT)	3 seconds
Primary Brake system	Aerodynamic
Pitch System	Electromechanical
Remote Monitoring	VPN
Wind Turbine type class	GL III B
Design Lifetime	25 years

Feeder-wise location of the WTGs of the project activity has been mentioned in the table below

Site	State	Capacity	WTG-ID	Feeder Location Details
Dhar Site	Madhya Pradesh	13.5 MW	TIR-03, 06, 12, 13, 14, ADD-02, 03, 04, 05	Jaitpura Feeder
		7.5 MW	TIR-04, 05, 07, 09, 10	DasheraMaidan Feeder

Dewas Site		10.5 MW	TK-01, 02, 05, 06, 08, 09, 10	Prisma Feeder-1 (Dewas)
		12 MW	TK-04, 07, 12, 13, 14, 15, 16, 17	Prisma Feeder-2 (Dewas)
Hatuniya Site		15 MW	RH3-01 to RH3-10	Kuchrod Site, Mandsour
		15 MW	RH4-01 to RH4-10	A F Jalpur, Mandsour
VejalparSite	Gujarat	10.5 MW	RISPL/1500/16-17/4049 to 4055	Morbi, Gujarat
		6 MW& 4.5 MW	RISPL/1500/16-17/4542 to 4549 (except RISPL/1500/16-17/4544 and RISPL/1500/16-17/4546)	Morbi, Gujarat

During the Current Monitoring Period, all the WTGs were operational and the project activity has supplied 85,153 MWh of electricity, and thus contributing to 83,279 tCO₂e GHG reductions.

3.2 Deviations

2.1.1 Methodology Deviations

Not Applicable, as there are no methodological deviations.

2.1.2 Project Description Deviations

Deviation 1

This deviation is related to total capacity of the project. At the time of registration, the total capacity of the project envisaged was 112.5 MW. Till 3rd verification the capacity of the project was downsized to 96 MW. This is because of following reasons-

1. The earlier, 13.5 MW capacity wind project by Giriraj Enterprises at Vejalpar site, Gujarat has been downsized to capacity of 12.0 MW; and
2. The earlier, 15 MW capacity wind project by Giriraj Enterprises at Khareda site, Gujarat has been cancelled by PP and has not been commissioned.

Deviation 2

Further to this, the 3 MW (1.5 MW x 2) WTG from the total capacity of 12 MW at Vejalpar site, Morbi, Gujarat. The reason for this is due to the internal restructuring within the organization of Giriraj

Enterprises. After that, the project capacity came down to 93.0 MW till December-2020. In the present monitoring period (01-January-2021 to 30-June-2021), the capacity in the same Vejalpar site has been further downsized to 6.0 MW from 9.0 MW because 3 MW (1.5 MW x 2) WTG from the total capacity of 6.0 MW at Vejalpar site, Morbi, Gujarat has been sold upon permission from Gujarat Energy capacity of same Vejalpar site was downsized to 4.5 MW from 6.0 MW.

So, now the total capacity of the project stands at 90.0 MW in January-2021 and 88.5 MW from 01-February-2021 to 30-June-2021.

Impact of additionality: At Vejalpar site, Gujarat at the time of investment decision making was 6.92% and the benchmark was 15.43%. Whereas, IRR for the downsized capacity of 12.0 MW comes to be 6.80% and the benchmark is 15.43%. With further downsizing capacity to 9.0 MW, the IRR stands at 6.46%. After downsizing the capacity in January 2021 to 6.0 MW, IRR comes out to be -3.51%. Again, after further the downsizing the capacity to 4.5 MW from February 2021 onwards, the IRR comes out to be -9.53%.

From the above analysis, it can be seen that after downsizing of the 13.5 MW project to 12.0 MW and further to 9 MW and then to 6 MW and 4.5 MW, the equity IRR is below the benchmark value. Hence, there is no impact on the project additionality.

Also, at the time of registration, 15.0 MW project was considered. But the project was cancelled and the entire capacity did not get commissioned. Hence, this will also not have any impact on the project additionality.

This deviation is of permanent nature (downsizing of the project capacity) and does not have any impact on the project applicability, baseline scenario and additionality.

3.3 Grouped Projects

Not Applicable, as this is not a grouped project activity.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid,OM,y}
Data unit	tCO ₂ /MWh
Description	Operating Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 11, April 2016 ¹⁰
Value applied	0.9941
Justification of choice of data or description of	Calculated as per "Tool to calculate the emission factor for an electricity system, version 05.0.0" as 3-year generation weighted average using

¹⁰http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver11.pdf

measurement methods and procedures applied	data for the years 2012-2013, 2013-2014 & 2014- 2015. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 11.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the baseline emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,BM,y}$
Data unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 11, April 2016 ¹¹
Value applied	0.9285
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per “Tool to calculate the emission factor for an electricity system, version 05.0.0” BM is calculated ex-ante based on the most recent information available at the time of submission of PDD and is fixed for the entire crediting period. The data is obtained from “CO ₂ Baseline Database for Indian Power Sector” version 11.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ /MWh
Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 11, April 2016 ¹²
Value applied	0.9777
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh) $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM} = Weighting of build margin emissions factor (%) = 25%
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period

¹¹http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver11.pdf
¹²http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver11.pdf

4.2 Data and Parameters Monitored

Data / Parameter	EG _{PJ,y}
Data unit	MWh/y
Description	Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid in year y
Source of data	Joint meter readings
Description of measurement methods and procedures to be applied	The value of net electricity generation supplied to the grid as per Joint Meter Reading Report forms the basis for calculation of the emission reductions; which can be cross checked from the invoice raised to DISCOM. Net electricity supplied to grid is calculated as the difference of the measured values of “export” and “import” of electricity through the dedicated SEB energy meter installed at the delivery point (i.e. the connected substation). Net electricity generated and supplied by the project (Wind) plant/unit to the grid = Electricity Export to the grid – Electricity Import from the grid Monthly meter readings are taken from the main and check meter installed at the substation and certified by the representatives of SEB Officials and the representatives of the project proponent.
Frequency of monitoring/recording	Continuous monitoring, hourly measurement and at least monthly recording
Value monitored	85,153 MWh
Monitoring equipment	Monitoring: Tri vector meter are used Data type: Measured Type of meter: Static type meter (Main & Check). Both are Bidirectional meters. Class of meter: 0.2s The Calibration details of the Energy Meter has been mentioned in Appendix-I of the Monitoring Report. There is no change in the meter in the current monitoring period.
QA/QC procedures to be applied	- The energy meter reading are taken on monthly basis - Energy meters will be calibrated once in a five year¹³ and faulty meters will be duly replaced immediately. - All the energy meters are under the control of state utility and calibration of energy meters is also under the jurisdiction of state utility. - The Net electricity exported to the grid can be cross checked

¹³As per CEA regulation

	against the invoice raised by the PP towards the DISCOM
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	The data would be archived electronically and maintained for the entire crediting period plus two years.

4.3 Monitoring Plan

Aim of monitoring

The monitoring methodology specified in the methodology requires that the project-monitoring plan to consist of monitoring of quantity of net electricity supplied to the grid in the year y. In order to monitor the mitigation of GHG due to the project activity, the total energy exported needs to be measured. The net energy supplied to grid by the project activity multiplied by emission factor for regional grid, would form the baseline for the project activity.

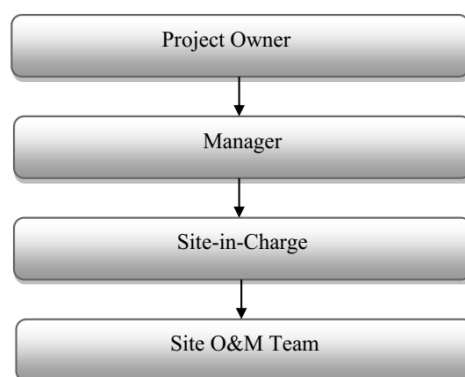
Since the baseline emission factor is based on an ex-ante determination, monitoring of this parameter is not required. The sole parameter for monitoring is the net electricity exported to the grid.

Monitoring roles and responsibilities

The operational and management structure implemented for data monitoring is as follows:

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

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



PP has assigned the responsibility of operation and maintenance of WTGs to respective EPC contractor of wind turbines for each sites.

Responsibilities of Head: Overall functioning and maintenance of the project activity.

Responsibilities of Plant In-charge: Responsibility to maintain the data records, ensures completeness of data, and reliability of data (calibration of equipments).

Responsibilities of Shift In-charge: Responsibility for day to day data collection and maintains day to day log book for monitored data.

QA/QC procedures

The energy meters at the feeders are maintained and owned by DISCOM. Neither the project proponent nor the site personnel have any control over it. The records are cross-checked with the records of sold electricity to Discom/third party. The meters are calibrated by DISCOM at-least once in five years.

Data Archiving

Monthly data shall be archived electronically and in paper form and stored for the entire crediting period and two years thereafter.

Training and maintenance requirements

Training on the machine is an essential pre-requisite, to ensure necessary safety of man and machine. Further, in order to maximize the output from the WTGs, it is extremely essential, that the engineers and technicians understand the machines and keep them in good health. In order to ensure, that O&M team is deft at handling technical snags on top of the turbine, the necessity of ensuring that they are capable of climbing the tower with absolute ease and comfort has been established. Each and every site personnel is provided with proper training to meet the requirements of the Operations and maintenance. This ultimately leads to creativity in problem solving.

1.	Apportioning Ratio	=	$\frac{\text{Generation at WTG Controller}}{\text{Total Generation of All WTG Controller for the feeder}}$
2.	Electricity Import from WTG by the grid (EG_{import})	=	Import from Main/Check Meter * Apportioning Ratio
3.	Electricity Export to the WTGs by the grid (EG_{export})	=	Export from Main/Check Meter * Apportioning Ratio
4.	Net electricity generated by WTG	=	Electricity Import from WTG by the grid – Electricity Export to the WTGs by the grid

Above steps for calculation of EG_{import} and EG_{export} are carried out by Discom Officials & energy break-up sheet is issued by the respective electricity board Officials. Based on the break-up sheets Project investor raises invoice to DISCOM/ third party which forms the basis of cross-check for the net electricity generated. The Project investor has no role in the entire procedure of apportioning

Emergency Preparedness and Uncertainty Procedure:

In case Main meter or check meter is found to be outside the acceptable limits of accuracy or faulty or not functioning properly, it will be repaired, recalibrated or replaced as soon as possible. In the event that the Main meter is not in service as a result of maintenance, repairs or calibration, the check meter will be used. In case both the main and check meter are found to be outside the acceptable limits of accuracy or faulty or not functioning properly, both the meters shall be calibrated immediately and the error percentage found in the main meter during its calibration shall be applied to its metered energy data for the entire period since its last calibration to obtain the corrected value of net electricity exported to the grid.

In case the dates of a particular monitoring period do not match with the dates of the billing cycle, the net electricity exported to the grid would be calculated from:

- Apportioning the net electricity exported to grid, as recorded in the consolidated Share Certificate/JMR Report/Credit Notes certified by the respective state discom, based on the number of days in the monitoring period and the number of days for which Share Certificate/JMR Report/Credit Notes was prepared.

The calculated value after apportioning would be used for calculation of emission reductions during that period. During the current monitoring period, apportioning has not been done.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

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

Where:

BE_y : Baseline emissions in year y (tCO₂e/yr)

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

$EF_{grid,CM,y}$: Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂e/MWh)

Parameter	Unit	Value
$EG_{PJ,y}$	MWh	85,153
$EF_{grid,CM,y}$	tCO ₂ e	0.9777

BE _y	=	85,153* 0.9777
BE _y	=	83,279 (Round down value)

5.2 Project Emissions

PE_{FF,y} = 0, As per para 37 of ACM0002 version 17, “For all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected”. Hence, PE_{FF,y} = 0.

5.3 Leakage

As per para 60 of ACM0002 version 17, No leakage emissions need to be considered for the project activity. Hence, LE_y = 0.

5.4 Net GHG Emission Reductions and Removals

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01-January-2021 to 30-June-2021	83,279	0	0	83,279
Total	83,279	0	0	83,279

It is to be noted here that annual estimated emission reduction are calculated based on 90 MW and 88.5 MW capacity and it is 83,279 t CO₂e/Year. The estimated emission reduction to be achieved from the project activity for the current monitoring period for 181 days is 88,265 tCO₂e, whereas actual emission reductions achieved are 83,279 tCO₂e, which is approximately 5.65% lower than the estimated emission reductions. This is due to low PLF achieved during the current monitoring period as compared to the PLF in the registered project description.

APPENDIX I: CALIBRATION DETAILS

The Energy Meters details for the project activity is as below.

22.5 MW Dewas Site, Madhya Pradesh

Feeder 1 having 7 WTGs of 1.5 MW each and Feeder 2 having 8 WTGs of 1.5 MW each.

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration ¹⁴	Validity
Prisma Feeder 1 (Dewas)	10.5 MW	XD500621 Main	0.2s	Secure	08-December-2017	07-December-2022
		XD500620 Check				
Prisma Feeder 2 (Dewas)	12 MW	XD500619 Main	0.2s	Secure	08-December-2017	07-December-2022
		XD500622 Check				

21 MW Dhar Site, Madhya Pradesh

One Feeder having 5 WTGs of 1.5 MW each and another Feeder having 9 WTGs of 1.5 MW each.

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration ¹⁵	Validity
Tirupati Dhar Renewable Power Pvt. Ltd (Jaitpura)	13.5 MW	XD500605 Main	0.2s	Secure	19-March-2016	18-March-2021
		XD500606 Check			21-March-2016	20-March-2021
Dhar Wind Power Projects Pvt. Ltd. (Dashera Maidan)	7.5 MW	XD500602 Main	0.2s	Secure	21-March-2016	20-March-2021
		XD500603 Check			19-March-2016	18-March-2021

Latest calibration details of 21 MW Dhar Site, Madhya Pradesh

¹⁴As the calibration frequency of the meter is once in five year, the calibration reports are valid during the current monitoring period. Hence, error factor has not been applied.

¹⁵As the calibration frequency of the meter is once in five year. The calibration reports are valid till March-2021 during the current monitoring period. Therefore, error factor has been applied from March-2021 onwards till June-2021.

Feeder Details	Capacity	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
Tirupati Dhar Renewable Power Pvt. Ltd (Jaitpura)	13.5 MW	XD500605 Main	0.2s	Secure	13-07-2021	12-07-2026
		XD500606 Check			13-07-2021	12-07-2026
Dhar Wind Power Projects Pvt. Ltd. (Dashera Maidan)	7.5 MW	XD500602 Main	0.2s	Secure	15-07-2021	14-07-2026
		XD500603 Check			15-07-2021	14-07-2026

30 MW Hatuniya Site, Madhya Pradesh

One Feeder having 10 WTGs (RH3-01 to RH3-10) of 1.5 MW each and another Feeder having 10 WTGs (RH4-01 to RH4-10) of 1.5 MW each.

Feeder Details	Meter Details	Meter serial number	Accuracy class	Make	Date Of Calibration ¹⁶	Validity
Kuchrod Site, Mandsour	RH-3 Main Meter	XB589231	0.2s	Secure	12-April-2016	11-April-2021
	RH-3 Check Meter	XC502290	0.2s	Secure	23-April-2016	22-April-2021
A F Jalpur, Mandsour	RH-4 Main Meter	XC502289	0.2s	Secure	12-April-2016	11-April-2021
	RH-4 Check Meter	XC502293	0.2s	Secure	23-April-2016	22-April-2021

¹⁶ The calibration frequency of the meter is once in five year. The calibration reports are valid till April-2021 during the current monitoring period. Therefore, error factor has been applied from April-2021 onwards till June-2021 conservatively.

Latest calibration details of 30 MW Hatuniya Site, Madhya Pradesh

Feeder Details	Meter Details	Meter serial number	Accuracy class	Make	Date Of Calibration	Validity
Kuchrod Site, Mandsour	RH-3 Main Meter	XB589231	0.2s	Secure	12-07-2021	11-07-2026
	RH-3 Check Meter	XC502290	0.2s	Secure	12-07-2021	11-07-2026
A F Jalpur, Mandsour	RH-4 Main Meter	XC502289	0.2s	Secure	12-07-2021	11-07-2026
	RH-4 Check Meter	XC502293	0.2s	Secure	12-07-2021	11-07-2026

10.5 MW and 9.0 MW Vejalpar Site, Gujarat

Meter Details	Line-1 Meters		Line-2 Meters	
	ABT Meter	Check Meter	ABT Meter	Check Meter
Meter Make	Secure	Secure	Secure	Secure
Meter Sl. No	GJ 1319 A	GJU 66431	GJ 1320 A	GJU 66432
Date of Calibration ¹⁷	31-March-2016	31-March-2016	31-March-2016	31-March-2016
Validity	30-March-2021	30-March-2021	30-March-2021	30-March-2021

Latest calibration details of 10.5 MW and 9.0 MW Vejalpar Site, Gujarat

Meter Details	Line-1 Meters		Line-2 Meters	
	ABT Meter	Check Meter	ABT Meter	Check Meter
Meter Make	Secure	Secure	Secure	Secure
Meter Sl. No	GJ 1319 A	GJU 66431	GJ 1320 A	GJU 66432
Date of Calibration	09-07-2021	09-07-2021	09-07-2021	09-07-2021
Validity	08-07-2026	08-07-2026	08-07-2026	08-07-2026

¹⁷ The calibration frequency of the meter is once in five year. Therefore the calibration reports are valid till March 2021. Hence during the current monitoring period the error factor has been applied from March-2021 onwards till June-2021.

APPENDIX II: BREAKDOWN DETAILS

1. Dewas site – 22.5 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
1	1 January 2021 to 31 January 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-02, GREDW-03, GREDW-04, GREDW-05, GREDW-06, GREDW-07, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-15	Preventive action, LC taken by electricity board, Mechanical yearly maintenance, EL tripped at substation, LC taken ReGen O&M department, Feeder breakdown, error accelerator nacelle limit, error grid current limit, High/low voltage from substation	149.30
2	1 February 2021 to 28 February 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-02, GREDW-03, GREDW-04, GREDW-07, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-15	Audits, EL tripped at substation, Mechanical yearly maintenance, preventive actions, errors, LC taken by electricity board	97.19
3	1 March 2021 to 31 March 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-03, GREDW-04, GREDW-05, GREDW-06, GREDW-07, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-15	EL tripped at substation, errors, high/low voltage from substations, preventive actions	44.54

4	1 April 2021 to 30 April 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-03, GREDW-04, GREDW-05, GREDW-06, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-16	EL tripped at substation, errors, high/low voltage from substations, preventive actions, LC taken by the electricity board, LC taken by Regen O&M.	112.68
5	1 May 2021 to 31 May 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-02, GREDW-03, GREDW-04, GREDW-05, GREDW-06, GREDW-07, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-15	EL tripped at substation, errors, high/low voltage from substations, preventive actions, LC taken by the electricity board, LC taken by Regen O&M, Quaterly visual maintenance, software updation, storm detection, Force majeure	201.5
6	1 June 2021 to 30 June 2021	Feeder 1, Feeder 2, GREDW-01, GREDW-02, GREDW-04, GREDW-05, GREDW-06, GREDW-07, GREDW-08, GREDW-09, GREDW-10, GREDW-11, GREDW-12, GREDW-13, GREDW-14, and GREDW-15	EL tripped at substation, errors, high/low voltage from substations, preventive actions, LC taken by the electricity board, LC taken by Regen O&M, Quaterly visual maintenance, software updation, storm detection, Humidity	239.57

2. Dhar site – 7.5 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
1	1 January 2021 to 31 January 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-10, DJMDR-02, DJMDR-03	Force Majeure(Customer request), EL tripped at substation, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	57.11

2	1 February 2021 to 28 February 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-10, DJMDR-02, DJMDR-05	EL tripped at substation, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	38.11
3	1 March 2021 to 31 March 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-10	EL tripped at substation, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	107.66
4	1 April 2021 to 30 April 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-10	EL tripped at substation, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	60.63
5	1 May 2021 to 31 May 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-11	EL tripped at substation, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	28.59
6	1 June 2021 to 30 June 2021	Feeder-1, Feeder-2, TIR-04, TIR-05, TIR-07, TIR-09, TIR-12	EL tripped at substation, customer request, yearly maintenance, errors, feeder breakdown, preventive actions, internal grid earth fault, LC taken by electricity board	111.13

3. Dhar site – 13.5 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
---------	-------	-----------	---------	--------------------

1	1 January 2021 to 31 January 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-14	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault,	143.98
2	1 February 2021 to 28 February 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-15	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault,	74.55
3	1 March 2021 to 31 March 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-16	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault, LC taken by Regen O&M, preventive actions	89.29
4	1 April 2021 to 30 April 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-17	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault, LC taken by Regen O&M, preventive actions, storm, force majeure	99.09
5	1 May 2021 to 31 May 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-18	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault, LC taken by Regen O&M, preventive actions, quarterly visual maintenance, individual VCB tripped	31.22
6	1 June 2021 to 30 June 2021	Feeder-1, Feeder-2, GREDR-01, GREDR-02, GREDR-03, GREDR-05, GREDR-09, GREDR-12, GREDR-13, GREDR-19	EL tripped at substation, yearly electrical maintenance, errors, force majeure, internal grid fault, LC taken by Regen O&M, preventive actions, quarterly visual maintenance, customer request	114.11

4. Hatuniya site – 30 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
1	1 January 2021 to 31 January 2021	Feeder-03, Feeder-04	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	205.31
2	1 February 2021 to 28 February 2021	Feeder-03, Feeder-04	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	253.91
3	1 March 2021 to 31 March 2021	Feeder-03, Feeder-05	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	244.58
4	1 April 2021 to 30 April 2021	Feeder-03, Feeder-06	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	83.5

5	1 May 2021 to 31 May 2021	Feeder-03, Feeder-07	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	140.94
6	1 June 2021 to 30 June 2021	Feeder-03, Feeder-08	EL tripped at substation, electrical yearly maintenance, errors, preventive actions, LC taken by electricity board, high/low voltage from substation	250.28

5. Vejalpar site – 10.5 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
1	1 January 2021 to 31 January 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-07	Electricity yearly maintenance, errors, LC taken by Regen O&M, preventive actions	71.97
2	1 February 2021 to 28 February 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-08	Electricity yearly maintenance, errors, preventive actions	75.59
3	1 March 2021 to 31 March 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-09	EL tripped at substation, Electricity yearly maintenance, errors, preventive actions, Storm	105.33
4	1 April 2021 to 30 April 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-10	Force majeure, Electricity yearly maintenance, errors, preventive actions, Storm	119.33
5	1 May 2021 to 31 May 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-11	Errors, force majeure, humidity	40

6	1 June 2021 to 30 June 2021	GIRVJ-01, GIRVJ-02, GIRVJ-03, GIRVJ-04, GIRVJ-05, GIRVJ-06, GIRBJ-12	EL tripped at substation, errors, force majeure, HT side fuse failure, LC taken by Regen O&M, preventive action	139.76
---	-----------------------------	--	---	--------

6. Vejalpar Site – 6 MW & 4.5 MW

Sl. No.	Dates	Locations	Details	Duration (minutes)
1	1 January 2021 to 31 January 2021	GIRVIJ -08, 12, 15 and 16	EL tripped at substation, electrical yearly maintenance, feeder breakdown, preventive action	77.12
2	1 February 2021 to 28 February 2021	GIRVJ - 12, 15 and 16	EL tripped at substation, errors, preventive action	10.2
3	1 March 2021 to 31 March 2021	GIRVIJ -08, 12, 15 and 16	EL tripped at substation, errors, preventive action, yearly maintenance, LC taken by electricity board, LC taken by Regen O&M, Substation incoming breakdown	85.93
4	1 April 2021 to 30 April 2021	GIRVIJ -08, 12, and 16	EL tripped at substation, force majeure, feeder breakdown, visual maintenance	17.2
5	1 May 2021 to 31 May 2021	GIRVIJ -08, 12, and 17	EL tripped at substation, humidity, feeder breakdown, visual maintenance, force majeure	41.46
6	1 June 2021 to 30 June 2021	GIRVIJ -08, 12, and 18	EL tripped at substation, humidity, feeder breakdown, visual maintenance, force majeure	164.96