



TEJUVA – CHANDGARH WIND PROJECT

Document Prepared by Apraava Renewable Energy Private Limited¹

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¹ The name of the company has been changed from CLP India Private Limited to Apraava Renewable Energy Private Limited with effect from 10/12/2021.

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PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

Apraava Renewable Energy Private Limited (AREPL) earlier known as CLP Wind Farms (India) Private Limited (CLPWFPL) has installed a wind project which is located at two wind sites viz. Tejuva site in Jaisalmer district in the state of Rajasthan and Chandgadhi site in the state of Madhya Pradesh in India. The project activity has been implemented in two phases - the first phase i.e. Tejuva site with capacity of 100.8 MW (48 * 2.1 MW) has been installed at Dilawar ka gaon, Ishaniyo ki basti, Chattrei, villages in the distt. of Jaisalmer, Rajasthan and second phase i.e. Chandgadhi site with capacity of 92 MW (46 * 2 MW) has been installed at Agrod, Amona, Bardu, Bercha, Bhayagaon, Bhikhedhi, Chandgarh, Chayan Hazam, Guradiya surdas, Jamodi, Mohammed kheda, Raheli, Ranayalkala and Samgi villages in the distt. of Dewas and Shajapur, Madhya Pradesh. The combined capacity of the project is 192.8 MW wind power project which is using Suzlon make 2.1 MW S97 Wind Turbine Generators at Tejuva site and Gamesa make 2.0 MW G97 WTG at Chandgadhi site. The project activity utilizes wind power to generate clean power with a view to bring in greenhouse gas emission reductions.

The Project activity is a new facility (Greenfield) and utilizing wind energy to generate electricity and supply it to distribution licensees which is a part of the NEWNE (Northern, Eastern, Western and North-Eastern) grid of India. In the absence of Project activity, quantity of the electricity that has been delivered to the NEWNE grid, would have been sourced from the existing grid-connected fossil fuel-based power plants to meet the growing electricity requirements. Hence, generation mix of Integrated Indian Grid (NEWNE grid is now merged with Integrated Indian Grid) is considered as the baseline scenario. Thus, the project activity reduces the dependency on fossil fuels which are pre-dominantly used for electricity generation in India and helps reduction of climate change impacts.

The Project activity helps to reduce the demand- supply gap in the country and also helps in contributing to the sustainable development by using wind energy as the source of power generation and reduction of GHG emissions. The first machine under this project activity was commissioned on 29-03-2015 and last machine was commissioned on 29-12-2015.

During this monitoring period the project activity has exported 438,798.49 MWh of energy to the NEWNE Grid of India. The total emission reductions achieved during the monitoring period from 01-09-2023 to 28-03-2025 is 434,409 tCO₂.

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation and Verification	29-03-2015 to 31-07-2016	VCS	URS VERIFICATION PRIVATE LIMITED	1 year, 4 months
Verification	01-08-2016 to 31-07-2018	VCS	Earthood Services Private Limited	2 years

Verification	01-08-2018 to 31-07-2020	VCS	Earthood Services Private Limited	2 years
Verification	01-08-2020 to 31-05-2021	VCS	Earthood Services Private Limited	10 months
Verification	01-06-2021 to 30-09-2022	VCS	LGAI Technological Center S.A. (Applus+ Certification)	1 year, 4 months
Verification	01-10-2022 to 31-08-2023	VCS	LGAI Technological Center S.A. (Applus+ Certification)	11 months
Verification	01-09-2023 to 28-03-2025	VCS	EcoLance Private Limited	1 year 7 months

1.3 Sectoral Scope and Project Type

Sectoral scope ²	01-Energy Industries (renewable/non-renewable sources)
Project activity type	Type I – Renewable Energy Projects

Sectoral scope	Not applicable
AFOLU project category ³	Not applicable
Project activity type	Not applicable

1.4 Project Proponent

Organization name	Apraava Renewable Energy Private Limited
Contact person	Jogendra Behera
Title	Head – Non-Utility Markets (Renewables)
Address	7th Floor, Fulcrum, Sahar Road, Andheri East, Mumbai - 400099
Telephone	+91- 22-67588888
Email	carbongroup@apraava.com

1.5 Other Entities Involved in the Project

At present, Apraava Renewable Energy Private Limited is the sole entity involved in the project.

² Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

³ See Appendix 1 of the VCS Standard

Organization name	NA
Role in the project	NA
Contact person	NA
Title	NA
Address	NA
Telephone	NA
Email	NA

1.6 Project Start Date

Project start date	29-03-2015
Justification	As per the Section 3.8 of the VCS Standard v.4.7, "The project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals". The project is a non-AFOLU project and the earliest date of interconnection with the grid is 29-03-2015. Hence, the start date of the project is 29-03-2015.

1.7 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☐ Ten years, fixed ☒ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements) The project was registered under VCS 2007.1 which allowed crediting period of a maximum of 10 years which may be renewed at most two times. As per VCS standard 4.7, the second crediting period was renewed for duration of 10 years from 29-03-2015 to 28-03-2025 (both days inclusive).
Start and end date of first or fixed crediting period	29-03-2015 to 28-03-2025 (both days inclusive).

1.8 Project Location

The project activity is implemented in 2 phases. Phase –I is located at Dilawar ka gaon, Ishaniyo ki basti and Chattrai, villages in the distt. of Jaisalmer, Rajasthan. Further, the remaining WTGs are installed at Agrod, Amona, Bardu, Bercha, Bhayagaion, Bhikhedhi, Chandgarh, Chayan Hazam, Guradiya surdas, Jamodi, Mohammed kheda, Raheli, Ranayalkala and Samgi villages in the distt. of Dewas and Shajapur in Madhya Pradesh which constitutes the phase-II of the project activity. The location details of project activity are given in below table:

Phase 1: Tejuva Site with a total capacity of 100.8 MW (48 WTGs)

SI No	WTG ID	Geo Co-ordinates		Commissioning Dates
		Latitude (North)	Longitude (East)	
1	HBR-020	27° 06' 39.2040" N	70° 37' 52.3200" E	30-Jun-2015
2	HBR-021	27° 06' 58.5360" N	70° 37' 32.5920" E	30-Jun-2015
3	HBR-022	27° 07' 09.7320" N	70° 37' 20.4960" E	30-Jun-2015
4	HBR-023	27° 07' 13.4040" N	70° 36' 59.2200" E	6-Aug-2015
5	HBR-024	27° 07' 28.5960" N	70° 36' 44.6040" E	6-Aug-2015
6	HBR-025	27° 07' 36.0840" N	70° 36' 24.4080" E	6-Aug-2015
7	HBR-027	27° 06' 21.1680" N	70° 37' 05.2320" E	6-Aug-2015
8	HBR-028	27° 06' 03.6720" N	70° 38' 10.7520" E	6-Aug-2015
9	HBR-029	27° 05' 55.3920" N	70° 38' 29.0760" E	6-Aug-2015
10	HBR-030	27° 05' 32.1360" N	70° 39' 26.6040" E	28-Aug-2015
11	HBR-031	27° 05' 19.7160" N	70° 39' 53.6400" E	28-Aug-2015
12	HBR-032	27° 04' 46.9200" N	70° 40' 10.0200" E	28-Aug-2015
13	HBR-033	27° 04' 54.3000" N	70° 39' 55.0080" E	28-Aug-2015
14	HBR-034	27° 05' 06.4320" N	70° 39' 30.1680" E	29-Mar-2015
15	HBR-035	27° 05' 18.3120" N	70° 38' 56.2560" E	29-Mar-2015
16	HBR-036	27° 05' 18.6720" N	70° 38' 32.4240" E	29-Mar-2015
17	HBR-037	27° 05' 29.1480" N	70° 38' 04.7400" E	28-Aug-2015
18	TJW-001	27° 05' 21.5160" N	70° 37' 02.8200" E	28-Aug-2015
19	TJW-002	27° 05' 05.1000" N	70° 37' 41.0520" E	6-Aug-2015
20	TJW-003	27° 04' 51.3840" N	70° 37' 55.9920" E	29-Mar-2015
21	TJW-004	27° 04' 42.2760" N	70° 38' 29.1840" E	29-Mar-2015
22	TJW-005	27° 04' 42.3120" N	70° 39' 05.6520" E	29-Mar-2015
23	TJW-006	27° 04' 26.2560" N	70° 39' 25.5600" E	29-Mar-2015
24	TJW-007	27° 04' 55.8480" N	70° 37' 02.4240" E	14-Aug-2015
25	TJW-010	27° 04' 24.8520" N	70° 38' 05.7840" E	29-Mar-2015

SI No	WTG ID	Geo Co-ordinates		Commissioning Dates
		Latitude (North)	Longitude (East)	
26	TJW-014	27° 03' 57.0240" N	70° 37' 56.5680" E	29-Mar-2015
27	TJW-015	27° 03' 59.2200" N	70° 38' 20.4720" E	29-Mar-2015
28	TJW-017	27° 04' 05.8800" N	70° 39' 02.8800" E	30-Jun-2015
29	TJW-018	27° 03' 42.6960" N	70° 39' 23.7960" E	30-Jun-2015
30	TJW-019	27° 03' 05.5800" N	70° 39' 26.9640" E	6-Aug-2015
31	TJW-020	27° 03' 17.5680" N	70° 39' 01.0800" E	6-Aug-2015
32	TJW-021	27° 03' 22.9320" N	70° 38' 37.8600" E	6-Aug-2015
33	TJW-022	27° 03' 30.1320" N	70° 38' 18.3120" E	29-Mar-2015
34	TJW-029	27° 02' 58.4520" N	70° 38' 43.6200" E	6-Aug-2015
35	TJW-030	27° 02' 47.6880" N	70° 38' 57.9840" E	6-Aug-2015
36	TJW-031	27° 02' 38.2920" N	70° 39' 24.5880" E	6-Aug-2015
37	TJW-033	27° 01' 46.0920" N	70° 39' 01.2240" E	14-Aug-2015
38	TJW-034	27° 02' 04.2720" N	70° 38' 46.7520" E	28-Aug-2015
39	TJW-035	27° 02' 13.5240" N	70° 38' 32.5680" E	30-Jun-2015
40	TJW-036	27° 02' 40.8120" N	70° 38' 23.8560" E	29-Mar-2015
41	TJW-037	27° 01' 59.6640" N	70° 37' 58.5120" E	30-Jun-2015
42	TJW-038	27° 01' 50.3400" N	70° 38' 08.9160" E	30-Jun-2015
43	TJW-039	27° 01' 37.0920" N	70° 38' 25.7280" E	30-Jun-2015
44	TJW-040	27° 01' 25.9320" N	70° 38' 38.1840" E	14-Aug-2015
45	TJW-041	27° 01' 14.5200" N	70° 38' 52.3320" E	14-Aug-2015
46	TJW-042	27° 00' 33.3720" N	70° 38' 29.6880" E	6-Aug-2015
47	TJW-043	27° 00' 50.4000" N	70° 38' 12.6240" E	6-Aug-2015
48	TJW-045	27° 01' 06.3120" N	70° 37' 37.0200" E	6-Aug-2015

Phase 2: Chandgadhi Site with a total capacity of 92 MW (46 WTGs)

Sl. No	WTG ID	Geo Co-ordinates		Commissioning Date
		Latitude (North)	Longitude (East)	
1	R-1	23° 09' 17.8200" N	76° 16' 00.4800" E	31-Mar-2015
2	R-4	23° 08' 35.5560" N	76° 17' 36.8880" E	31-Mar-2015
3	R-16-N	23° 07' 53.2560" N	76° 19' 23.3040" E	30-Jun-2015
4	R-17-N	23° 08' 07.8720" N	76° 19' 02.2440" E	31-Mar-2015
5	R-24-N	23° 08' 37.2480" N	76° 18' 44.8200" E	30-Jun-2015
6	R-35-N	23° 10' 01.5240" N	76° 19' 07.5000" E	30-Oct-2015
7	R-40	23° 10' 44.4000" N	76° 20' 45.0960" E	30-Jun-2015
8	R-42	23° 10' 28.6680" N	76° 21' 11.4480" E	30-Jun-2015

Sl. No	WTG ID	Geo Co-ordinates		Commissioning Date
		Latitude (North)	Longitude (East)	
9	R-47	23° 11' 30.9120" N	76° 21' 18.6480" E	30-Oct-2015
10	R-54-N	23° 12' 21.6720" N	76° 20' 14.7120" E	30-Jun-2015
11	R-60-N	23° 12' 43.1640" N	76° 20' 46.8960" E	30-Oct-2015
12	R-62	23° 13' 08.0760" N	76° 21' 15.7320" E	29-Dec-2015
13	R-69-N1	23° 13' 42.3120" N	76° 19' 45.6240" E	30-Jun-2015
14	R-70	23° 13' 49.9080" N	76° 19' 21.5760" E	31-Mar-2015
15	R-79	23° 14' 47.1480" N	76° 19' 14.7000" E	30-Oct-2015
16	R-84-N	23° 15' 56.8080" N	76° 17' 56.4000" E	30-Oct-2015
17	R-87	23° 14' 37.2120" N	76° 18' 41.6880" E	30-Oct-2015
18	R-89	23° 08' 24.4680" N	76° 19' 05.5200" E	31-Mar-2015
19	R-94-N2	23° 13' 04.4040" N	76° 20' 10.3560" E	30-Jun-2015
20	R-97	23° 12' 15.3720" N	76° 19' 44.6160" E	31-Mar-2015
21	R-101-N	23° 13' 54.8400" N	76° 18' 53.7120" E	30-Oct-2015
22	R-103-N	23° 10' 31.6200" N	76° 20' 39.7320" E	30-Jun-2015
23	R-104-N	23° 10' 20.1000" N	76° 20' 47.5440" E	30-Oct-2015
24	R-106	23° 14' 05.8920" N	76° 19' 21.3960" E	30-Oct-2015
25	R-108	23° 13' 27.4440" N	76° 17' 53.5560" E	30-Jun-2015
26	R-109	23° 08' 41.8200" N	76° 18' 07.7760" E	31-Mar-2015
27	R-111	23° 11' 59.4600" N	76° 19' 53.4000" E	31-Mar-2015
28	R-112	23° 09' 38.4840" N	76° 17' 17.3040" E	31-Mar-2015
29	R-113	23° 10' 11.7840" N	76° 14' 47.7600" E	31-Mar-2015
30	R-115	23° 10' 38.4240" N	76° 17' 39.9480" E	31-Mar-2015
31	R-121	23° 13' 24.1320" N	76° 19' 48.8640" E	31-Mar-2015
32	Gch-30	23° 15' 47.3040" N	76° 18' 34.7760" E	29-Dec-2015
33	Gch-160	23° 11' 38.5800" N	76° 16' 09.0120" E	29-Dec-2015
34	Gch-156	23° 08' 16.6920" N	76° 17' 23.1000" E	29-Dec-2015
35	Gch-196	23° 09' 36.7920" N	76° 14' 31.2360" E	29-Dec-2015
36	Gch-185-N	23° 07' 08.5800" N	76° 16' 36.4800" E	29-Dec-2015
37	Gch191-N1	23° 10' 54.6240" N	76° 13' 45.0840" E	29-Dec-2015
38	Gch-147	23° 09' 55.5480" N	76° 14' 46.5720" E	29-Dec-2015
39	Gch-220-A1	23° 06' 46.4400" N	76° 17' 11.3280" E	29-Dec-2015
40	Gch-157	23° 11' 24.5760" N	76° 16' 26.2200" E	29-Dec-2015
41	Gch-224-N	23° 08' 52.6560" N	76° 15' 53.6040" E	29-Dec-2015
42	Gch-248	23° 09' 33.2640" N	76° 13' 20.4600" E	29-Dec-2015
43	Gch-250-N	23° 07' 06.0960" N	76° 17' 44.1240" E	29-Dec-2015

Sl. No	WTG ID	Geo Co-ordinates		Commissioning Date
		Latitude (North)	Longitude (East)	
44	Gch-222-A3	23° 06' 24.8760" N	76° 17' 14.0640" E	29-Dec-2015
45	Gch-252	23° 10' 58.5840" N	76° 16' 53.1480" E	29-Dec-2015
46	R-85-N	23° 15' 47.0520" N	76° 18' 06.1560" E	30-Oct-2015

1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	ACM0002	Grid-connected electricity generation from renewable sources	17.0
Tool	Tool 07	Tool to calculate the emission factor for an electricity system	5.0
Tool	Tool 01	Tool for the demonstration and assessment of additionality	7.0
Guideline	NA	Methodological tool for Investment analysis	6.0

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

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

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

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

☐ Yes ☒ No

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

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

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit?

☐ Yes ☒ No

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system?

☐ Yes ☒ No

1.11.3 Supply Chain (Scope 3) Emissions

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

☐ Yes ☒ No

The Project Activity is a wind power project and does not involve any supply chain involved in the project such as manufacturers, wholesalers, distributors and retailers. So, no indirect upstream and downstream GHG emissions are not involved in the project activity. Thus, the Scope 3 emissions are not applicable in this project activity.

1.12 Sustainable Development Contributions

The main purpose of this project activity is to generate clean electricity through renewable wind energy source. The project is a wind project which is located at two wind sites in India. The combined capacity of the project is 192.8 MW. The Project activity is a new facility (Greenfield) and the electricity generated by the project is exported to the Indian electricity grid. The project will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. Over the 10 years of first crediting period, the project activity is expected to supply 368.8 GWh of energy to the NEWNE Grid of India each year, which is mainly dominated by thermal/fossil fuel-based power plant. This is expected to result in emission reductions of 364,244 tCO₂e per year of operation.

The project activity has resulted in various contributions towards the SDGs has been given below:

SDG 7.2.1: Renewable energy share in the total final energy consumption: The Project activity is a new facility (Greenfield) and the electricity generated by the project is exported to the Indian electricity grid. The project therefore displaces an equivalent amount of electricity which would

have otherwise been generated by fossil fuel dominant electricity grid. During the current monitoring period 438,798.49 MWh electricity has supplied to Indian grid.

SDG 8 Quality of Employment: The implementation of the project activity has led to increase in the Quality of Employment and skill upliftment. During the current monitoring period, 1 Training has been organized for staff on the technology, plant operation, emergency and safety procedure.

SDG 13 Climate Action: The main purpose of this project activity is to generate a clean electricity through renewable wind energy sources. The project is a wind project which is located at two wind sites in India. The capacity of 100.8 MW ($48 * 2.1$ MW) has been installed at Tejuva site in the distt. of Jaisalmer, Rajasthan and the capacity of 92 MW ($46 * 2$ MW) has been installed at Chandgarh site in the distt. of Dewas and Shajapur, Madhya Pradesh. The combined capacity of the project is 192.8 MW. The project supplies clean electricity from the wind power plants to the Indian Grid, hence displacing the electricity generated from grid connected fossil fuel power plants and thereby avoiding the equivalent Carbon dioxide which is a greenhouse gas. By supplying 438,798.49 MWh clean electricity to Indian grid, the project avoided release of 434,409 tCO_{2e} into the atmosphere during the current monitoring period.

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1	7.2	7.2.1: Renewable energy share in the total final energy consumption	Implemented activities to increase	About 438,798.49 MWh renewable electricity has been supplied to Central Grid to Indian Electricity grid during the reported period that helps to increase the renewable energy share in the energy mix.	A total of 3,319,232.323 MWh renewable electricity has been supplied to the Indian grid by the project activity since commissioning.
2	8	Quality of Employment	Implemented activities to increase	1 Training has been provided during current monitoring period, the training was organized for staff on the technology, plant operation, emergency and safety procedure.	Overall, 10 trainings have been provided, these trainings were organized for staff on the technology, plant operation, emergency and safety procedure.
3	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By generating 438,798.49 MWh renewable electricity the project has avoided emission of 434,409 tCO ₂ e in the atmosphere.	Since commissioning the project has avoided emission of 3,286,040 tCO ₂ e in the atmosphere.

1.13 Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the monitoring report.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification	Stakeholders associated with the project activity throughout its lifetime are identified at different stages of project development. The stakeholders identified are generally grouped under two categories- directly affected parties, and indirectly affected parties as shown below: a) Representatives from EIL now WWIL; b) Employees of AREPL; c) Contractor of AREPL; d) Villagers from nearby villages Furthermore, all the stakeholders mentioned above were identified at the project's validation. There has been no change in stakeholder makeup since validation.
Legal or customary tenure/access rights	The project activity is a greenfield wind power project and it has not involved any legal or customary tenure/access rights to territories and resources. So, this section is not applicable
Stakeholder diversity and changes over time	Not applicable This is renewable energy project and does no impact on the diversity of the stakeholders.
Expected changes in well-being	There are not any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity. Furthermore, wind projects in India have indirect positive socio-economic impacts:

	a) Job Creation: Wind energy projects create jobs in various sectors, contributing to local economic growth. b) Economic Growth: These projects contribute to economic growth and community investment. c) Reduced Electricity Rates: Wind energy can reduce electricity rates for project neighbours. d) Health Benefits: Wind turbines help reduce carbon footprints and improve air quality, leading to better health outcomes. e) Educational Opportunities: They provide educational and research opportunities, fostering innovation and knowledge exchange.
Location of stakeholders	No negative impact generated outside/inside of the project boundary. (All stakeholders who will be directly affected by the project activity are included within the project boundary. Further, this grouped project activity does not require the relocation of any stakeholder, Indigenous people, or local communities.)
Location of resources	Not Applicable (In the project activity, neither any territories and resources are owned by the stakeholders, nor they have any customary access)

2.1.2 Stakeholder Consultation and Ongoing Communication

Ongoing consultation	Stakeholders' consultation is a continuous process and hence a feedback register is kept at the project site office where any stakeholder can come and share his/her feedback. The feedback irrespective of the type is taken care by PP with utmost priority.
Date(s) of stakeholder consultation	22/02/2012 (Tejuva) 08/09/2016 (Chandgarh)
Communication of monitored results	Monitored outcomes are conveyed to the stakeholders in two ways: 1.Through VERRA Website: - PP submits third-party (i.e., VVB) verified monitoring results to VERRA, and once approved, the project documentation is made publicly available on the VERRA webpage for each monitoring period. 2.Through PP regional office: - A copy of all the project related documents and monitoring data (e.g., grievance register) is available at regional offices of the PP, which is

	accessible to all the stakeholders associated with the project activity.
Consultation records	The Local Stakeholder Consultation(LSC) records were submitted to VVB at the time of validation and grievance register records for the current monitoring period will be submitted to VVB.
Stakeholder input	Stakeholder input/feedback received during LSC and the LSC report for the same had been submitted to the VVB during validation. Furthermore, the stakeholder feedback/grievance received during the current MP, through ongoing consultation mechanism, has been taken care as per the standard procedure adopted by PP, provided in section 2.1.4 of the VCS-MR. There were no major comments from the stakeholders which could impact on the design of the grouped project.

2.1.3 Free, Prior, and Informed Consent

Consent	Before the project commissioning PP had taken appropriate approvals from relevant authorities.
Outcome of FPIC	Not Applicable. The project activity does not affect any type of property rights, and there are no ongoing or unresolved conflicts over property rights, usage, or resources. This project activity does not involve any encroachment on land, people's relocation, or forced physical or economic displacement.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
No grievances were received during the current monitoring period	NA

The grievance mechanism process could be illustrated as below:

PP has placed a grievance register onsite where-in, the stakeholders can put down their request/complaint/requirements. Same is continuously monitored and appropriate action are also being taken by management. Furthermore, PP has also placed a notice board on site to communicate any necessary information/updates to local stakeholders. PP has found this two-way communication with local stakeholders is very effective towards sustainability of the project in long run.

As part of organizational policy, there are continuous interactions undertaken by Project Participant's officials with local community stakeholders. During these discussions, local villagers share their observations and comments. All the observations, comments and queries raised during discussion have been adequately responded to. Some of the suggestions have also been incorporated in the overall vision and stakeholder engagement action plan of the organization.

2.1.5 Public Comments

No public comment was received during current monitoring period.

Summary of comments received	Actions taken
No comments from stakeholder during current monitoring period and registration of the VCS PD.	No action is required

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

The PP is Independent Power Producer (IPP) and has been in the renewable energy business for more than 20 years. PP has been actively involved in design or implementation of project activity. The management is experienced and well educated as per the understanding of the carbon market. The field staff has been trained well and annual trainings are provided to keep them up to date.

2.2.2 Risk assessment

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risk identified	Project activity involves the installation of WTG which are consider as nature friendly and placed far away from human interference, hence no risk to human and nature.

Risks to stakeholder participation	No risk identified	Project activity only has benefits for the stakeholders as it provided clean energy with zero risk to human and nature.
Working conditions	Safety of employees at project site	PP has a health and safety policy, and procedure manual in place to ensure favorable working condition.
Safety of women and girls	Sexual harassment at workplace	PP has Health, Safety, Security and Environment (HSSE) Policy and Prevention of Sexual Harassment at Work policies are stated as per the safety of both women and girls (https://www.apraava.com/getmedia/57e1f6c7-d1cc-4912-b4c2-cd69198444ae/Apraava-Policy_POSH-Policy.pdf)
Safety of minority and marginalized groups, including children	No risk identified	PP has followed all the regulations and safety protocols provided to the minority and marginalized groups. (Ref Apraava Energy Annual Integrated Report FY 2024-25, https://www.apraava.com/IntegratedReport/2024-25/)
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	No risk identified	The project activity involves installation of wind power project, which do not emit any kind of air, water, soil, and hazardous material. The waste/used oil from the turbines and transformer oil is disposed as per applicable laws. No waste water generation is envisaged from operation of wind farm. There will be only a marginal increase in noise levels due to operation of wind farm and there

will be no significant impact on the noise levels due to the Project.

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

Risks identified ⁴		Mitigation or preventative measure(s) taken
Discrimination	Discrimination on the basis of individual's race, gender, age, disability, ethnicity or cultural affiliation, sexual orientation, belief, educational background, or any other basis.	PP is committed to providing an environment free from sexual harassment. PP follows company policy on 'Prevention of Sexual Harassment at the Workplace Policy' which protects from sexual harassment by vendors, contractors, and third parties. (Ref Human Rights Policy, https://www.apraava.com/getmedia/57e1f6c7-d1cc-4912-b4c2-cd69198444ae/Apraava-Policy_POSH-Policy.pdf)
Sexual harassment	Unwelcome acts or behavior (whether directly or by implication)	PP is committed to providing an environment free from sexual harassment. PP follows company policy on 'Prevention of Sexual Harassment at the Workplace Policy' which protects from sexual harassment by vendors, contractors, and third parties.
Gender equity in labor and work	Biasness in hiring, promotions or terminations	The PP is Independent Power Producer (IPP) and has been in the renewable energy business for more than 20 years. The PP has policies in place to ensure fair opportunity and equal pay for work done to both men and women.

⁴ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Forced labor	No risk identified	PP complies with the core labour standards for the ADB financed portion of the Project by engaging those contractors and other providers of goods and services who do not employ forced labour
Child labor	No risk identified	PP complies with the core labour standards for the ADB financed portion of the Project by engaging those contractors and other providers of goods and services who do not employ child labour
Human trafficking	No risk identified	The PP works with ethical suppliers as per code of conduct policy and no such scenario is envisaged for the project activity.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project activity is a greenfield Wind power project and wind mills are installed in approved/permited areas. The project does not affect the indigenous people and their cultural heritage.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	The project activity is a greenfield Wind power project and wind mills are installed in approved/permited areas. The project does not affect the indigenous people and their cultural heritage.

2.3.4 Property Right

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project activity is a greenfield wind power project. This project does not infringe with

property rights and resources. Hence, there is no need to implement any measures to protect and preserve the property rights of stakeholders, IPs, LCs, and customary rights holders.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	Project activity is a greenfield wind power project where the benefit sharing is not applicable.
Benefit sharing during the monitoring period	Not applicable because the project activity does not have any impacts property right.

2.4 Ecosystem Health

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	This project activity does not involve any activity which may negatively impact biodiversity and ecosystem. The locations identified for the WTG do not comprise of any trees or shrubs in the immediate vicinity. Provision of adequate spaces between each turbine for movement of birds which reduces the potential for accidental collision has been provided as per the project site layout plan.
Soil degradation and soil erosion	Dispersion of soil	Temporary paved areas are constructed to be used while refueling the machineries, in case of any accidental spill the soil will be cut and stored securely for disposal with hazardous waste.
Water consumption and stress	No risk identified	Since the project activity is wind power plant, there is no water consumption and stress are likely to be caused.

2.4.1 Rare, Threatened, and Endangered species

Species or habitat	Since the project activity is greenfield wind power project, no ecosystem impact was identified during validation
Areas needed for habitat connectivity	Not Applicable

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	Since the project activity is greenfield wind power project, no ecosystem impact was identified during validation	Not Applicable
Areas for habitat connectivity	Since the project activity is greenfield wind power project, no ecosystem impact was identified during validation	Not Applicable

2.4.2 Introduction of species

This project activity neither involve any planting activities nor introduction of species. Hence, not applicable.

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Not Applicable	Not Applicable	Since the project activity is greenfield wind power project, it is not applicable as project activity does not introduce any species.	Not Applicable

This grouped project activity does not involve introduction of any species which may be invasive in nature.

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

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

2.4.3 Ecosystem conversion

The project activity is a greenfield wind power project. This project activity does not involve ARR, ALM, WRC or ACoGS activities. Hence, not applicable.

	Risks identified	Mitigation or preventative measure(s) taken
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Ecosystem conversion

NA

NA

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

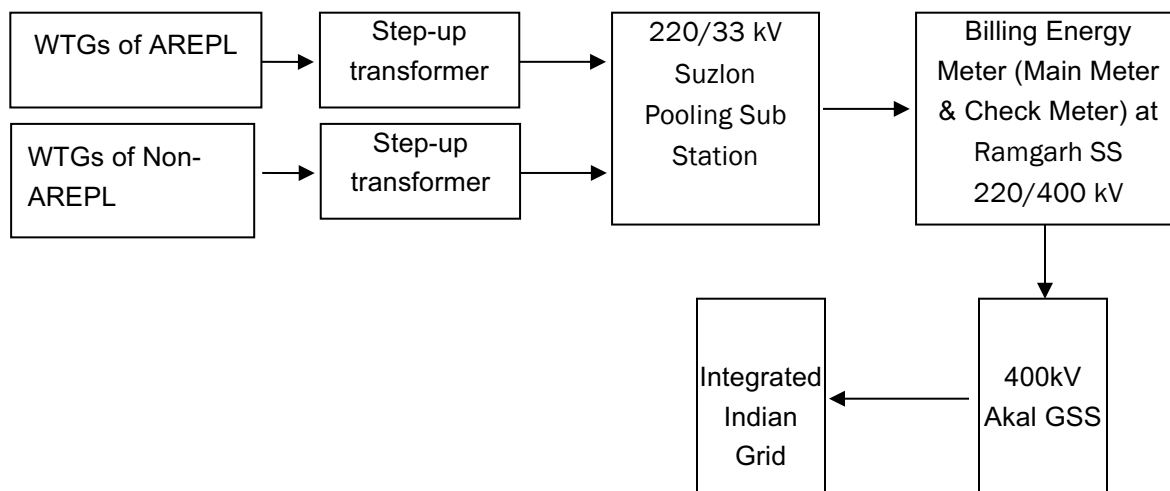
The first machine under the bundled project activity was commissioned on 29-03-2015 and last machine was commissioned on 29-12-2015. The combined capacity of the project is 192.8 MW wind power project which is using Suzlon make 2.1 MW S97 WTGs at Tejuva site and Gamesa make 2.0 MW G97 WTGs at Chandgadh site. The commissioning dates for all the machines installed in the project activity are given in section 1.7.

The Project activity is operated by respective O&M contractors at individual sites and managed by the CLP. The operational and maintenance contracts for the project activity are with Suzlon Infrastructure Services Limited and Gamesa Wind Turbines Pvt. Ltd, which are an ISO 9001 certified company.

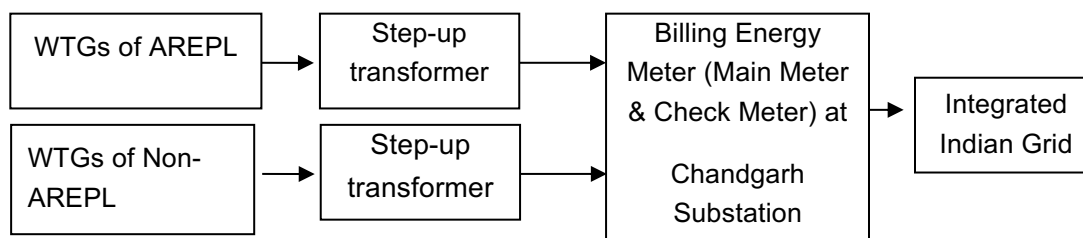
O&M contractors follow the documentation practices to ensure the reliability and availability of the data for all the activities as required from the identification of the site, wind resource assessment, logistics, finance, construction, commissioning and operation of the wind power project.

No major breakdown occurred during this monitoring period. The WTGs were operating normally. As per the requirement of O & M activities, WTGs were shut down for some time

Monitoring equipment line diagram in Tejuva Site is detailed as below: -



Monitoring equipment line diagram in Chandgarh Site is detailed as below: -



3.2 Deviations

3.2.1 Methodology Deviations

No methodology deviation is applied during the monitoring period.

3.2.2 Project Description Deviations

During current monitoring period, below deviation was considered:

1. PP name has been changed from CLP India (Wind Farm) Private Limited to Apraava Renewable Energy Private Limited with effect from 10/12/2021 as mentioned in section 1.1.
2. Serial number of main meter (RJB85058) as provided in the MR is aligned to serial number of main meter (RJB85055) as per monthly joint meter readings (JMR). In VCS registered PD, while mentioning the serial number of main meter under section (A) Tejuva Location in appendix 2, a typo error has occurred, wherein the serial number of main meter was mentioned as RJB85058. Thus, henceforth the serial number of main meter should be read as RJB85055. There is no impacts in any applicability criteria of methodology, additionality or the appropriateness of the baseline scenario due to this change.

3.3 Grouped Projects

Not applicable, as the project is not a grouped project.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid,OM,y}
Data unit	tCO ₂ /MWh
Description	Operating margin CO ₂ emission factor of NEWNE Grid
Source of data	Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 10 (http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf)
Value applied:	1.00
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” as 3-year generation weighted average using data for the years 2011-2012, 2012-2013 and 2013-14. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 10.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	Baseline Emission calculation
Comments	This database is an official publication of Government of India for the purpose of baseline emission calculation. It is based on most recent data available to the Central Electricity Authority and hence considered authentic. As the calculation of baseline emission has been done ex ante its value will be remain fixed for the entire crediting period.

Data / Parameter	EF _{grid,BM,y}
Data unit	tCO ₂ /MWh
Description	Build margin CO ₂ emission factor of NEWNE grid
Source of data	Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 10 (http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf)
Value applied:	0.95

Justification of choice of data or description of measurement methods and procedures applied	CEA has Calculated it as per ‘Tool to calculate the emission factor for an electricity system’, version 05.0 for the year 2013-14. The build margin is calculated in this database as the average emissions intensity of the 20% most recent capacity additions in the grid based on net generation and option of ex ante calculation.
Purpose of Data	Baseline Emission calculation
Comments	This database is an official publication of Government of India for the purpose of baseline emission calculation. It is based on most recent data available to the Central Electricity Authority and hence considered authentic. As the calculation of baseline emission has been done ex ante its value will remain fixed for the entire crediting period.

Data / Parameter	EF _{grid,CM,y}								
Data unit	tCO ₂ /MWh								
Description	Combined margin CO ₂ emission factor of NEWNE grid								
Source of data	Calculated form Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 10 (http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf)								
Value applied:	0.99								
Justification of choice of data or description of measurement methods and procedures applied	Calculation based on 75% of OM and 25% of BM values approach as directed by ‘Tool to calculate the emission factor for an electricity system’, version 05.0.0. <table border="1"> <thead> <tr> <th colspan="2">Combined Margin Estimation for NEWNE Grid (tCO₂/MWh)</th></tr> </thead> <tbody> <tr> <td>Generation Weighted Average OM (EF_{grid, OM,y})</td><td>1.00</td></tr> <tr> <td>BM (EF_{grid, BM, y})</td><td>0.95</td></tr> <tr> <td>Combined Margin (EF_{grid,CM,y})</td><td>0.99</td></tr> </tbody> </table>	Combined Margin Estimation for NEWNE Grid (tCO ₂ /MWh)		Generation Weighted Average OM (EF _{grid, OM,y})	1.00	BM (EF _{grid, BM, y})	0.95	Combined Margin (EF _{grid,CM,y})	0.99
Combined Margin Estimation for NEWNE Grid (tCO ₂ /MWh)									
Generation Weighted Average OM (EF _{grid, OM,y})	1.00								
BM (EF _{grid, BM, y})	0.95								
Combined Margin (EF _{grid,CM,y})	0.99								
Purpose of Data	Baseline Emission calculation								
Comments	This database is an official publication of Government of India for the purpose of CDM baseline. It is based on the most recent data available to the Central Electricity Authority and hence considered								

authentic. As the calculation of baseline emission has been done ex ante its value will remain fixed for the entire crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	EG _{BL,Tejuva,y}
Data unit	MWh
Description	Quantity of net electricity supplied to the grid by phase-1 (Tejuva) site to the grid in year y
Source of data	Credit subdivision of Energy issued by the O&M contractor
Description of measurement methods and procedures to be applied	As the project WTGs in phase-1 (Tejuva) in Rajasthan are connected to a common feeder (a common pool where project developers under this project activity and other project developers feed electricity), O&M contractor apportioned the electricity export and import data based on individual WTGs controller reading, summation of all controller reading of WTGs connected under the common feeder and joint meter reading (based on billing meter) and provide month wise “Credit subdivision of Energy” which contains electricity export, import and net export by the project WTGs under phase-1 (Tejuva site). These values are the main source to calculate the baseline emission by this project activity. The detailed apportioning procedure followed by the O&M contractor has been provided below in section 4.3. On receipt of the “Credit subdivision of Energy” sheet, AREPL raises the invoice for the electricity export to the grid and same have been cross checked with records of invoices.
Frequency of monitoring/recording	Continuous monitoring, hourly measurement and monthly recording
Value monitored	223,554.67 MWh
Monitoring equipment	Energy meters Type: electronic tri-vector meters Accuracy class: 0.2s Serial Number: RAJ13723 (New Main Meter), RAJ13724 (New Check Meter)
QA/QC procedures to be applied	- The energy meter reading are taken on monthly basis - Energy meters will be calibrated once in a five year in line with guidance stipulated by Central Regulatory Authority, Govt. of India and faulty meters will be duly replaced immediately. - All the energy meters are under the control of state utility and calibration/testing of energy meters is also under the jurisdiction of state utility.

	The Net electricity exported to the grid has been cross checked against the invoice raised by AREPL towards the DISCOM
Purpose of the data	Calculation of Baseline emissions
Calculation method	O&M contractor apportioned the electricity export and import data based on individual WTGs controller reading, summation of all controller reading of WTGs connected under the common feeder and joint meter reading (based on billing meter) and provide month wise “Credit subdivision of Energy “which contains electricity export, import and net export by the project WTGs under phase-1 (Tejuva site). Detailed calculation procedure is mentioned in section 4.3.
Comments	The data will be archived both in electronic and paper format for crediting period + 2 years.

Data / Parameter	EG BL,Chadgarh,y
Data unit	MWh
Description	Quantity of net electricity supplied to the grid by phase-2 (Chandgarh) site to the grid in year y
Source of data	Credit report issued by the O&M contractor
Description of measurement methods and procedures to be applied	As the project WTGs in phase-2 (Chandgarh) in Madhya Pradesh are connected to common feeder (common pool where project developers under this project activity and other project developers feed electricity), O&M contractor apportioned the electricity export and import data based on individual WTGs controller reading, summation of all controller reading of WTGs connected under the common feeder and joint meter reading (based on billing meter) and provide month wise “Credit report “which contains electricity export, import and net export by the project WTGs under phase-2 (Chandgarh site). These values are the main source to calculate the baseline emission by this project activity. The detailed apportioning procedure followed by the O&M contractor has been provided below in section 4.3. On receipt of the “Credit report”, AREPL raises the invoice for the electricity export to the grid and same have been cross checked with records of invoices.
Frequency of monitoring/recording	Continuous monitoring, hourly measurement and monthly recording
Value monitored	215,243.82 MWh
Monitoring equipment	Energy meters Type: electronic tri-vector meters Accuracy class: 0.2s

	Serial Number: For Feeder-I: Q0555708 (Main Meter), Q0555709 (Check Meter) For Feeder-II: Q0555710 (Main Meter), Q0555711 (Check Meter)
QA/QC procedures to be applied	- The energy meter reading are taken on monthly basis - Energy meters will be calibrated once in a five year in line with guidance stipulated by Central Regulatory Authority, Govt. of India and faulty meters will be duly replaced immediately. - All the energy meters are under the control of state utility and calibration/testing of energy meters is also under the jurisdiction of state utility. - The Net electricity exported to the grid has been cross checked against the invoice raised by the PP towards the DISCOM
Purpose of the data	Calculation of Baseline emissions
Calculation method	O&M contractor apportioned the electricity export and import data based on individual WTGs controller reading, summation of all controller reading of WTGs connected under the common feeder and joint meter reading (based on billing meter) and provide month wise "Credit report "which contains electricity export, import and net export by the project WTGs under phase-2 (Chandgarh site). Detailed calculation procedure is mentioned in section 4.3
Comments	The data will be archived both in electronic and paper format for crediting period + 2 years.

4.3 Monitoring Plan

Suzlon Infrastructure Services Limited and Gamesa Wind Turbines Pvt. Ltd are the O&M contactors for Tejuva and Chandgarh site respectively. Respective O&M contractors are responsible for the maintaining all the monitoring data on behalf of state utility in respect of the project activity. O&M contractors have implemented the management structure for managing the monitored data.

This approved monitoring methodology requires monitoring of the following:

Net electricity supplied from the project activity

While Emission factor of the project activity is fixed ex ante, hence no further monitoring of this parameter is required. As per ACM0002 leakage need not be considered hence leakage has not been considered for the project activity. Hence, the sole parameter for monitoring is the net electricity supplied by the project activity to the grid.

The Project activity is operated by O&M contractor for the project activity and managed by the AREPL. The operational and maintenance contracts for the project activity are with Suzlon Infrastructure Services Limited and Gamesa Wind Turbines Pvt. Ltd, which are an ISO 9001

certified company. O&M contractors follow the documentation practices to ensure the reliability and availability of the data for all the activities as required from the identification of the site, wind resource assessment, logistics, finance, construction, commissioning and operation of the wind power project.

Monitoring Procedure:

WTGs installed under this project activity are connected to common feeders at respective sites. A particular feeder comprises of WTGs belonging to owners other than AREPL but belonging to the same O&M service provider. At the respective DISCOM's sub-station, the total export & import to this feeder is monitored using the main meter & the backup meter, which are electronic tri-vector meters. The total export at this meter is generally arrived at by multiplying the monthly meter reading to the multiplying factor of the meter concerned. The monthly meter reading is arrived at as the difference between the current meter reading and the previous meter reading. The period between these two readings is usually a period of 30 days. In a similar fashion, total import at this meter is also calculated. In Tejeva, Rajasthan, all the WTGs are connected to a single feeder where as in Chandgarh, WTGs are connected to two feeders. Details of the feeders are mentioned in Appendix-1. Additionally, O&M contractors are monitoring electricity generation by each WTG at the WTG controller by their Central Monitoring System. With the help of WTG controller readings and JMR reading, respective O&M contractor calculates the electricity export by each WTG (by apportioning procedure) and generate the "Credit report" (in Chandgarh, Madhya Pradesh) or "Credit Sub-division of energy" (in Tejuva, Rajasthan). Based on the same, all the project investors raise the invoice for the electricity export to the grid. The allocation of electricity or apportion procedure is executed as per the following procedure:

Calculation of the net export⁵ of electricity from project activity:

Time duration for calculation = 30 days

X = Electricity generation at controller of the WTG for 30 days in MWh

Y = Electricity generation by all WTG attached to the common feeder in MWh

R = % allocation for each of the WTG on the common feeder = $X \times 100\% / Y$

E = Electricity supplied by the common feeder to the grid monitored at main meter in MWh

I = Electricity imported by the common feeder from the grid monitored at main meter in MWh

Thus,

⁵ Same calculation procedure is adopted in both the sites

Apportioned electricity exported by the each WTG = $R\% * E$ in MWh

Apportioned electricity imported by the each WTG = $R\% * I$ in MWh

Net electricity generation = $EG_{BL,y} = (R\% * E) - (R\% * I)$ in MWh

Baseline emission = $EG_{BL,y} * EF_{CM,y}$ tCO₂

Based on the above procedure, O&M contractor apportioned the electricity export and import and AREPL received the “Credit Report” (consists of electricity exported and imported by AREPL). This documents are the main source of information for the emission reduction calculation.

As the controller reading of WTGs belongs to other project developers are confidential information, hence, O&M contractor is not disclosing the same. Thus, controller readings of other project developer connected to the same feeder are not available to AREPL.

Upon receipt of these reports, AREPL generates invoices on sale of electricity and sends to respective DISCOMs. Thereafter respective DISCOM makes payments against the invoices.

QA/QC Procedure

All the meters are calibrated/ tested once in five years. The calibration is done by the officials of the state utility. The accuracy of monitoring parameter is ensured by adhering to the calibration and testing of the metering equipment once in five years. QA/QC procedures have been as implemented by Discom/ State utility pursuant to the provisions of the power purchase agreement. Suzlon Infrastructure Services Limited and Gamesa Wind Turbines Pvt. Ltd provides the daily generation report to the Project participant. In case the main meter(s) is found to operate outside the permissible limits, the main meter will be either replaced or calibrated immediately. Whenever a main meter goes defective, the consumption recorded by the Check meter will be referred. The project participant, is monitoring the data for electricity generation and calibration reports post project implementation. Suzlon Infrastructure Services Limited and Gamesa Wind Turbines Pvt. Ltd is O&M contractor who has responsibility of maintaining electricity generation records, calibration records and maintenance of the WTGs (Wind Turbine Generators). The project participant also maintains the records of daily generation report and joint meter report.

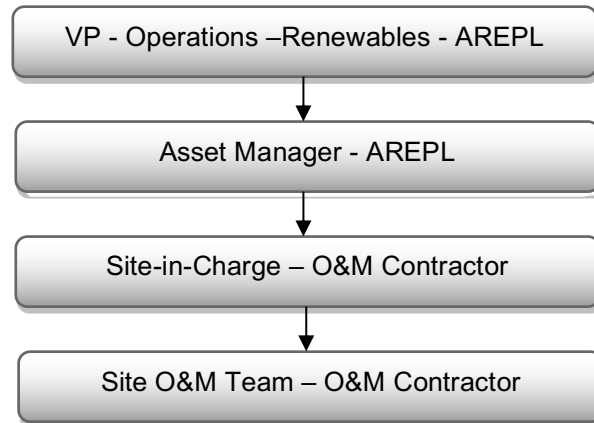
Training and maintenance requirements:

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 wind turbine, 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 contractor’s service staffs 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. The training is contemporary, which results in imparting focused knowledge leading to value addition to the attitude and skills of all trainees. This ultimately leads to creativity in problem solving.

Monitoring roles and responsibilities

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

The Project activity is operated by O&M contractor for the project activity and managed by the AREPL. O&M contractor follows the documentation practices to ensure the reliability and availability of the data for all the activities as required from the identification of the site, wind resource assessment, logistics, finance, construction, commissioning and operation of the wind power project. The data for the project is compiled by the O&M Contractor and subsequently stored by AREPL. The roles and responsibilities for the project are described as below;



Data Recording

The state utility and representative of AREPL shall jointly read the metering system every month at the delivery point.

Meter readings taken jointly has been signed by the representatives of state utility and of concerned power producer/developer. If Power Producer/ Developer's representative is not present for joint meter reading then the meter reading taken by state utility shall be considered as final; provided a signed copy of the meter reading is sent to the Power Purchase / Developer within twenty four (24) hours of such reading of the main metering system or back up metering system as the case may be.

Calibration Frequency

For Tejuva project site, the main meter was calibrated on 24/05/2023 and check meter was calibrated on 28/02/2020, prior to the current monitoring period. As per the registered monitoring plan, this calibration was valid until 23/05/2028 and 27/02/2025 respectively, which is also in line with the Central Electricity Authority (Installation and Operation of Meters) (Amendment) Regulations, 2019. However, during the current monitoring period, Old main and check meters at Tejuva project site were replaced with new main and check meters by State utility on 08/09/2024 to ensure continued measurement accuracy. The newly installed meters were tested for accuracy by the state utility on 13/08/2024. The details of the same is provided in Appendix 2 of monitoring report. The main and backup meters shall be calibrated once in a five

year in line with notification issued by Central Electricity Authority, Govt of India dated the 17th March, 2006.

Description of calibration of WTG Controller

The controller used for the WTGs which is an LCS Controller is a micro-processor based intelligent controller which has been specially designed for control of wind turbines. In case there is any mismatch in the energy values recorded by the controller panel meter and the energy values calculated by the inverting system; the WTG machine will stop working and generate the error report automatically. Then the O&M team at the project site will replace the controller panel meter immediately. Hence calibration of the controller panel meter is not required.

Emergency Preparedness

In case of any abrupt breakdown, the fault will be immediately identified by the O&M personnel. All minor faults shall be taken care of by the O&M personnel, In case of any major faults, the grid personnel will be informed and replacement of the equipment shall be made within 24 hours.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the equation 6 of the methodology ACM 0002 (Version 17.0),

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

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 CDM 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)

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

Baseline emissions (BE_y) are calculated as follows:

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

Baseline emissions for Project:

Vintage Period	Net Electricity Export (MWh)	Emission Factor (tCO ₂ /MWh)	Baseline Emissions (tCO ₂)
2023 (01-09-2023 to 31-12-2023)	78,412.86	0.99	77,628
2024 (01-01-2024 to 31-12-2024)	303,406.55	0.99	300,372
2025 (01-01-2025 to 28-03-2025)	56,979.08	0.99	56,409
	438,798.49		434,409

5.1.1 Project Emissions

The project activity involves harnessing of wind energy and its conversion to electricity. Hence according to ACM0002 Version 17.0.0, there will be no project emissions in the project activity.

$$PE_y = 0$$

5.2 Leakage Emissions

As per ACM0002 Version 17.0.0, no leakage has been considered for the calculation of emission factor.

5.3 GHG Emission Reductions and Carbon Dioxide Removals

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCU (tCO ₂ e)
2023 (01-09-2023 to 31-12-2023)	77,628	0	0	77,628	0	77,628
2024 (01-01-2024 to 31-12-2024)	300,372	0	0	300,372	0	300,372
2025 (01-01-2025 to 28-03-2025)	56,409			56,409		56,409

Total	434,409	0	0	434,409	0	434,409
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Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
2023 (01-09-2023 to 31-12-2023)	1,21,747	77,628	-36.24%	The actual emission reductions for the current monitoring period is 24.29 % lower than estimated emission reductions. Availability of wind during low wind season is a natural phenomenon which is beyond the control of project proponent.
2024 (01-01-2024 to 31-12-2024)	3,65,241	3,00,372	-17.76%	
2025 (01-01-2025 to 28-03-2025)	86,819	56,409	-35.03%	
Total	5,73,809	4,34,409	-24.29%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
Not applicable	not applicable	The project activity is greenfield wind power project, there are no commercially sensitive information so this section is not applicable.

APPENDIX 2: CALIBRATION DETAILS

A) Tejuva Location:

Sl. No.	Meter Identification No	Meter Make	Accuracy Class	Latest Calibration Date	Calibration Validity Date
1	RJB85055 (Old Main Meter)	Secure Meter	0.2s	24-05-2023	23-05-2028
2	RAJ13723* (New Main Meter)	Secure Meter	0.2s	13-08-2024	12-08-2029
3	RJB85059 (Check Meter)	Secure Meter	0.2s	28-02-2020	27-02-2025
4	RAJ13724* (New Check Meter)	Secure Meter	0.2s	13-08-2024	12-08-2029

* Old main and check meters were replaced with new man and check meters by State utility on 08/09/2024

B) Chandgarh Location:

Sl. No.	Feeder No	Meter Identification No	Meter Make	Accuracy Class	Calibration Date	Calibration Validity Date
1	Feeder-I	Q0555708 (Main Meter)	Secure Meter	0.2s	05-03-2022	04-03-2027
		Q0555709 (Check Meter)	Secure Meter	0.2s	05-03-2022	04-03-2027
2	Feeder-II	Q0555710 (Main Meter)	Secure Meter	0.2s	05-03-2022	04-03-2027
		Q0555711 (Check Meter)	Secure Meter	0.2s	05-03-2022	04-03-2027

Calibration frequency of the meter is once in five years. There was not any significant period of shut-down or break-down period during this monitoring period.