

# Verification Report for

Project: 77.2 MW Bundled Wind Projects in AP, MP and

Maharashtra, India.

UCR Project ID : 320

Name of Verifier	SQAC Certification Pvt. Ltd.
Date of Issue	June 19, 2023
Project Proponent	M/s Atria Brindavan Power Pvt Ltd (M/s Blyth Wind Park
	Private Limited (BWPPL) & M/s Betul Wind Farms Pvt
	Limited (BWFPL) and M/s Pradeep Metals Limited (PML).
UCR Project Aggregator	Climekare Sustainability Pvt. Ltd.
Work carried by	Mr. Santosh Nair
Work reviewed by	Mr. Praful Shinganapurkar

#### Summary:

SQAC Certification Pvt. Ltd. has performed verification of the "77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India" which is a bundle of 3 (three) renewable (wind) energy project activities for generating electricity from wind, on the basis of UCR criteria. The generated electricity from WEG's is connected to state electric utility grids of AP, MP and Maharashtra. The bundled wind power projects are operational activities with continuous reduction of GHGs, currently being applied for voluntary carbon offset units (CoUs) under "Universal Carbon Registry" (UCR).

#### The project activity meets the following UN SDG's:













Web: www.sqac.in

Email: info@sqac.in Tel: 7219716786 / 87

Verification for the period: **18/07/2014 to 31/12/2022** (08 years 06 months)

In our opinion, the total GHG emission reductions over the crediting / verification period stated in the Project Concept Note (PCN) / Monitoring Report (MR), submitted to SQAC are found to be correct and in line with the UCR guidelines.

The GHG emission reductions were calculated on the basis of UCR Protocols which draws reference from, UCR Protocol Standard Baseline, UNFCCC Methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0. The verification was done remotely by way of video calls / verification, phone calls and submission of documents for verification through emails.

SQAC is able to certify that the emission reductions from the 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India (UCR ID - 320) for the period **18/07/2014** to **31/12/2022** amounts to **10,70,239CoUs** (**10,70,239**tCO<sub>2</sub>eq)

#### **Detailed Verification Report**:

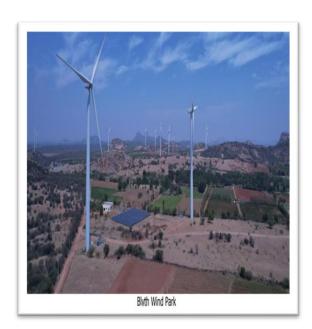
#### **Purpose:**

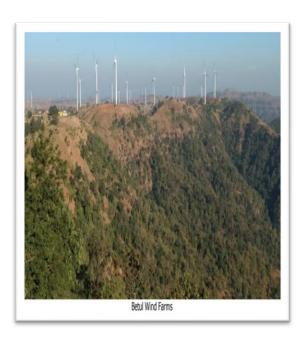
The main purpose of the project activity is the implementation and operation of 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India, which is a bundle of 3 (three) renewable (wind) energy project activities located at the following locations in Country: India.

Bundled Sr No	Name of Wind Farm Bundle	Installed Capacity (MW)	Villag	ie/s	District	State
			Derpani,	Kabramall,	Betul	Madhya
			Khamla,	Baramcha,		Pradesh
01	Betul Wind Farms	49.5	Badgaon and	Dhar		
			Kalyan	durg	Ananthapur	Andhra
02	Blyth Wind Park	25.6			·	Pradesh
03	Pradeep Metals WTG	2.1	Umar	ani	Sangali	Maharashtra

The generated electricity from the wind turbine generators (WTGs) in the bundles are connected to the state electric utility grids of AP, MP and Maharashtra. The bundled wind power projects are operational activities with continuous reduction of GHGs, currently being applied for voluntary carbon offset units (CoUs) under "Universal Carbon Registry" (UCR). The commissioning date of the first WTG across all the bundles is considered as the start date of the project activity and is recorded as 18/07/2014.

In the absence of the project activity, electricity would have been delivered to the grid by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel based generation sources in the grid. As is the nature of wind projects (renewable energy), no fossil fuel is involved for power generation in the project activity. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases (GHGs, i.e., CO<sub>2</sub>) into the atmosphere by displacing an equivalent amount of power at grid.









#### Scope:

The scope covers verification of emission reductions from the project - 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India (UCR ID – 320)

#### Criteria:

Verification criteria is as per the requirements of UCR Standard.

#### **Description of project:**

The project activity titled, 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India is a bundle of 3 (three) renewable (wind) energy project activities located at the following locations in Country: India.

The wind farm project activity bundles are as follows:

- (Betul Wind Farms) is owned by Betul Wind Farm Pvt Ltd (BWFPL). BWFPL (Project Proponent or PP) is a special purpose vehicle (SPV) owned by WPA Clean Energy Private Limited (held by Atria Brindavan Power Pvt Ltd - flagship company of Atria Group) and USEIPL (held by United Telecoms Limited). The total installed capacity of Betul Wind Farms is 49.5 MW and consists of 33 Wind turbine generators (WTGs) each of 1.5 MW capacity in Betul district of Madhya Pradesh.
- (Blyth Wind Park) is owned by Blyth Wind Park Private Limited (BWPPL Project Proponent or PP) which is a subsidiary of WPA Clean Energy (WPA) which is a part of Atria Group. The Atria group has investments in diverse segments viz. hydro power, renewable power, hospitality, real estate etc. in various geographies. The total installed capacity of the Blyth Wind Park is 25.6 MW wind power project in Ananthapur district of Andhra Pradesh. The Blyth Wind Park consists of 16 WTGs of 1.6 MW each. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by GE India Ltd.
- (Pradeep Metals WTG) is owned by Pradeep Metals Limited (PML Project Proponent or PP). The total installed capacity by PML is 2.1 MW and consists of one WTG in Sangali district of Maharashtra. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by Suzlon Ltd.

The generated electricity from the wind turbine generators (WTGs) in the bundles are connected to the state electric utility grids of AP, MP and Maharashtra.

The project activity is hence the installation of new grid connected renewable power plants/units. The baseline scenario and scenario existing prior to the implementation of the project activity are both the same.

Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period:

Summary of the Project Activity and ERs	Generated for the Monitoring Period
Start date of this Monitoring Period	18/07/2014
Carbon credits s (CoUs) claimed up to	31/12/2022
Total ERs generated (tCO <sub>2eq</sub> )	10,70,239 (expressed as CoUs)
Project Emission (tCO₂eq)	0
Leakage (tCO₂eq)	0

#### The baseline scenario identified at the MR stage of the project activity is:

In the absence of the project activity, the equivalent amount of electricity would have been
imported from the regional grid (which is connected to the unified Indian Grid system)
which is carbon intensive due to predominantly sourced from fossil fuel-based power
plants. Hence, baseline scenario of the project activity is the grid-based electricity system,
which is also the pre project scenario.

#### **United Nations Sustainable Development Goals:**

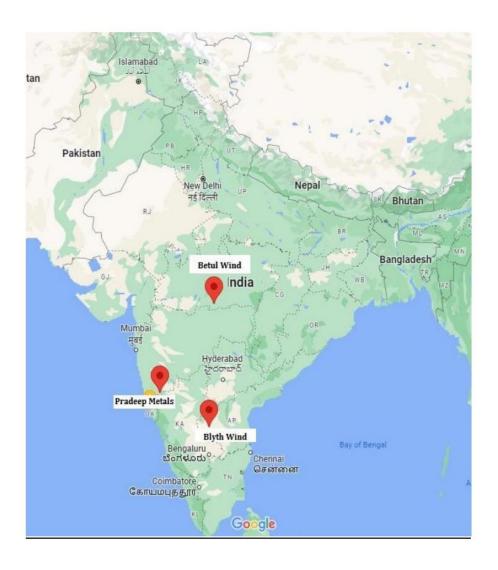
The project activity generates electrical power using wind energy which is generated from windmills, there by displacing non-renewable fossil resources resulting to sustainable, economic and environmental development. In the absence of the project activity equivalent amount of power generation would have taken place through fossil fuel dominated power generating stations. Thus, the renewable energy generation from project activity will result in reduction of the greenhouse gas emissions. Positive contribution of the project to the following Sustainable Development Goals:

Development Goals	Targeted SDG	Target Indicator (SDG Indicator)
13 CLIMATE ACTION  SDG 13: Climate Action	13.2: Integrate climate change measures into national policies, strategies and planning  Target: 1070019 tCO2 avoided during this MR	13.2.1: Number of countries that have communicated establishment or operationalization of an integrated policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
7 AFFORDABLE AND CLEAN ENERGY  SDG 7: Affordable and Clean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix  Target: 1188915 MWh supplied during this MR from wind energy.	7.2.1: Renewable energy share in the total final energy consumption
8 DECENT WORK AND ECONOMIC GROWTH  SDG 8: Decent Work and Economic Growth	8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value  Target: Training, O&M staff	8.5.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

# Location of project activity:

Country: India

Name of Wind Farm Bundle	Installed Capacity (MW)	Villa	age/s	District	State
		Derpani,	Kabramall,	Betul	Madhya
		Khamla,	Baramcha,		Pradesh
Betul Wind Farms	49.5	Badgaon an	nd Dhar		
		Kalya	andurg	Ananthapur	Andhra
Blyth Wind Park	25.6				Pradesh
Pradeep Metals WTG	2.1	Um	arani	Sangali	Maharashtra



	Blyth Wind	d Park	
INST_CAPACITY (MW)	WTG_MODEL_NAME	LONGITUDE	LATITUDE
1.6	GE-1.6 XLE ESS	72.4798	16.09721
1.6	GE-1.6 XLE ESS	72.4770	16.09555
1.6	GE-1.6 XLE ESS	72.5403	16.09643
1.6	GE-1.6 XLE ESS	72.5456	16.09465
1.6	GE-1.6 XLE ESS	72.5265	16.09113
1.6	GE-1.6 XLE ESS	72.4554	16.09218
1.6	GE-1.6 XLE ESS	72.5293	16.08920
1.6	GE-1.6 XLE ESS	72.5709	16.08253
1.6	GE-1.6 XLE ESS	72.5644	16.08095
1.6	GE-1.6 XLE ESS	72.5901	16.07856
1.6	GE-1.6 XLE ESS	72.4715	16.10265
1.6	GE-1.6 XLE ESS	72.4693	16.10440
1.6	GE-1.6 XLE ESS	72.4644	16.10623
1.6	GE-1.6 XLE ESS	72.5285	16.11338
1.6	GE-1.6 XLE ESS	72.4963	16.11740
1.6	GE-1.6 XLE ESS	72.4952	16.11931

	Betu	l Wind Fa	rms	
Location No.	Village	Dist.	Latitude	Longitude
B17	Derpani	Betul	21.50088°	77.54987°
B18	Derpani	Betul	21.50298°	77.55217°
B19	Derpani	Betul	21.50360°	77.55685°
B20	Kabramall	Betul	21.48359°	77.54753°
B21	Kabramall	Betul	21.53241°	77.54646°
B22	Kabramall	Betul	21.52778°	77.55361°
B27	Kabramall	Betul	21.52125°	77.55296°
B28	Kabramall	Betul	21.50822°	77.55732°
B31	Kabramall	Betul	21.536728°	77.546868°
B06	Khamla	Betul	21.49124°	77.51131°
B07	Khamla	Betul	21.49250°	77.51431°
B08	Baramacha	Betul	21.49627°	77.51817°
B12	Badgaon	Betul	21.49906°	77.53222°
B13	Badgaon	Betul	21.51374°	77.52738°
B14	Badgaon	Betul	21.49551°	77.53724°
B11	Badgaon	Betul	21.50557°	77.53116°
B16	Badgaon	Betul	21.48640°	77.54503°
B25	Baramacha	Betul	21.49942°	77.52105°
B15	Derpani	Betul	21.49737°	77.54143°
D01	Dhar	Betul	21.49889°	77.54490°
D02	Dhar	Betul	21.52537°	77.54765°
D03	Dhar	Betul	21.46739°	77.55531°
D04	Dhar	Betul	21.47085°	77.55958°
D05	Dhar	Betul	21.47279°	77.56774°
B01	Khamla	Betul	21.49686°	77.49503°
B02	Khamla	Betul	21.49753°	77.49802°
B03	Khamla	Betul	21.49130°	77.50460°
B04	Khamla	Betul	21.49321°	77.50591°
B05	Khamla	Betul	21.49760°	77.50891°
B10	Khamla	Betul	21.49587°	77.52537°
B23	Khamla	Betul	21.500315°	77.503947°
B24	Khamla	Betul	21.49899°	77.51071°
B29	Khamla	Betul	21.511166°	77.525649°

		Pradeep	Metals WTG		
Location	Village	Dist.	Taluk	Latitude	Longitude
JTH -116	Umarani	Sangali	Jath	N16 53 34.1	E75 16 57.2

#### Level of Assurance:

The verification report is based on the information collected through interviews conducted over video calls / phone calls, supporting documents provided during the verification, Project Concept Note (PCN) / Monitoring Report (MR), submitted to SQAC. The verification opinion is assured provided the credibility of all the above.

#### **Verification Methodology:**

Review of the following documentation was done by SQAC Verifier, Mr. Santosh Nair, who is experienced in such projects.

- Project Concept Note (PCN)
- Monitoring Report (MR)
- Commissioning Report of all WTG's
- Data provided upon request of all the documents of the related projects.

#### Sampling:

Since there are 16 Wind Turbine generators (WTGs) installed in Blyth Wind Park of total installed capacity of 25.6 MW, 33 Wind Turbine generators (WTGs) installed in Betul Wind Farms of total installed capacity of 49.5 MW and 01 Wind Turbine generator (WTG) installed in Pradeep Metals of total installed capacity of 2.1 MW at three various locations within AP, MP & Maharashtra, 13 have been selected for complete site monitoring through video. The 13 WTG's selected are:

Betul: D-04, B-31, B-25, B-21, B-17, B-13, B-02

Blyth: AT-02, AT-04, AT-09 & AT-15

Pradeep: JTH-116

#### Persons interviewed:

1. Mr. Harish : M/s. Betul Wind Farms & M/s. Blyth Wind Park

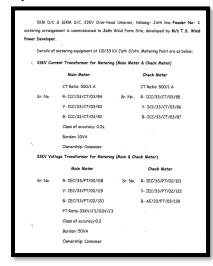
Mr. Ashok Solanki : M/s. Betul Wind Farms
 Mr. Siva : M/s. Blyth Wind Park
 Mr. Sagar Mane : M/s. Pradeep Metals

#### **Documentation Verified:**

- Project Concept Note (PCN)
- Monitoring Report (MR)
- Energy Readings
- Calibration Reports
- Joint Meter Reading (JMR)
- Energy Meter
- Commissioning Certificates

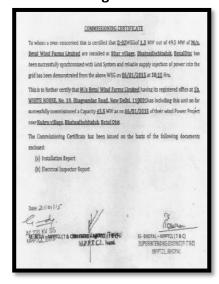
#### **Commissioning Certificate – Pradeep Metals Limited**

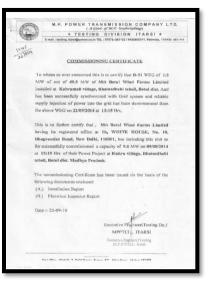


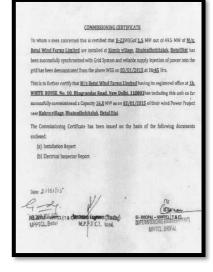




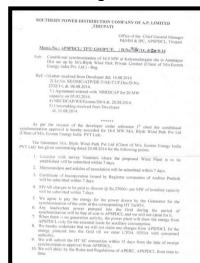
#### **Commissioning Certificate – Betul Wind Farms Limited**

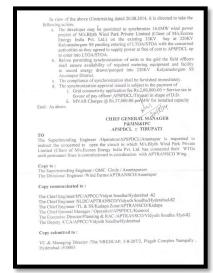


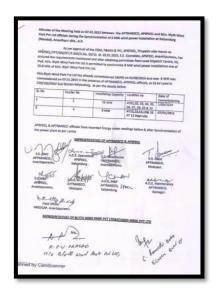




#### **Commissioning Certificate – Blyth Wind Park Private Limited**







Station/ Generation	Capacity in MW	Meter No.	Voltage Level	Connected at Substation
M/S Betul Wind Form Limited(Old Meter 01		MPC62876(Main Meter)		
12-22 to 16-12-2022)	49.5 MW,	MPC62875 (Check Meter)		
M/S Betul Wind Form Limited(New Meter 16		Q0662976	132KV	132 KV S/S MPPTCL
12-22 to 31-12-2022)		Q0662977		Gudgaon

Deta	ails:				
i)	Make	EDMI	ii)	Meter's Sr. No.	HT 01150002
iii)	Туре	MK 6 E	iv)	Current Rating	-/ 1 Amp
v)	Pulses/Unit	42400 IMP/KWH	vi)	Voltage Rating	11 KV /110 V
vii)	SMF for M.D.	1 (One)	viii)	No. of digits	As per meter display
ix)	SMF for Units	1 (One)	x)	Meter Class	0.2 S
i)	Make Type Pulses/Unit	EDMI MK 6 E 42400 IMP/KWH	iv)	Meter's Sr. No. Current Rating Voltage Rating	HT 01150001 -/ 1 Amp 11 KV /110 V
vii)	SMF for M.D.	1 (One)	viii)	No. of digits	As per meter display
ix)	SMF for Units	1 (One)	x)	Meter Class	0.2 S

		FORM -M1		
METER R	READINGS OF MAI	N,CHECK & STANDBY METE	ER FOR THE BILLING MONTH	OF JUNE 2022
Name & Locat	tion of the Plant : 2	220KV/132KV/33KV Meterin	ng Point at Kalyanadurg APTI	RANSCO SubStation.
Location (	Of Metering : 220k	V/132KV/33KV Metering Po	oint at Kalyanadurg APTRAN	SCO SubStation,
		M/s. Blyth Wind Par		
Fuel: WIND	PPA/PV	NPA/PPWA/OA : OA	Installed Capacity :	10 X 1.6 MW = 16 MW er No:1
OD: 29.09.2014	OA Ex	p.Date: 30.04.2039	SLDC Approved	date: 11.09.2015
2. METER MANAGER Whether seals If No, Remarks	are Intact:	[ √]Yes	[ ]No	
Whether seals If No, Remarks Details of Billing End	are Intact: : ergy Meters			Standby Meter
Whether seals If No, Remarks Details of Billing End Description	are Intact:	Main Meter	[ ]No  Check Meter	Standby Meter
Whether seals If No, Remarks Details of Billing End Description Make	are Intact:  i	Main Meter	Check Meter	
Whether seals If No, Remarks Details of Billing End Description Make Meter Number	are Intact: : ergy Meters Unit	Main Meter L&T	Check Meter	L&T
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type	are Intact: : : ergy Meters Unit	Main Meter L&T 17074533	Check Meter L&T 17074551	L&T 17074554
Whether seals If No, Remarks Details of Billing End Description Make Meter Number	are Intact:  i	Main Meter L&T 17074533 ER300P	Check Meter	L&T 17074554 ER300P 300
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type Meter CT Ratio	are Intact: : ergy Meters Unit	Main Meter L&T 17074533 ER300P	Check Meter	L&T 17074554 ER300P 300 1 33KV/√3
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type	ergy Meters Unit PRI - A SEC- A	Main Meter L&T 17074533 ER300P 300 1	Check Meter L&T 17074551 ER300P 300 1	L&T 17074554 ER300P 300

		FORM -M1	L	
METER F	READINGS OF MAI	N,CHECK & STANDBY METI	ER FOR THE BILLING MONTH	OF JUNE 2022
Name & Local	tion of the Plant :	220KV/132KV/33KV Meteria	ng Point at Kalyanadurg APTi	RANSCO SubStation.
Location	Of Metering : 220k	(V/132KV/33KV Metering P	oint at Kalyanadurg APTRAN	SCO SubStation
		M/s. Blyth Wind Par		
Fuel : WIND	PPA/PV	VPA/PPWA/OA : OA	Installed Capacity:	6 X 1.6 MW = 9.6 MW er No:2
D: 29.09.2014	OA Ex	p.Date: 30.04.2039	SLDC Approved	date: 11.09.2015
	are Intact:	[ √]Yes	[ ]No	
Whether seals If No, Remarks Details of Billing End	are Intact:			Standby Mete
Whether seals	are Intact: : ergy Meters			Standby Mete
Whether seals If No, Remarks Details of Billing End Description	are Intact: : ergy Meters Unit	Main Meter	Check Meter	
Whether seals If No, Remarks Details of Billing End Description Make	ergy Meters	Main Meter Secure	Check Meter Secure	Secure
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type	ergy Meters Unit	Main Meter Secure APX01687	Check Meter Secure APX01688	Secure APX01689
Whether seals  If No, Remarks  Details of Billing End  Description  Make  Meter Number	ergy Meters Unit	Main Meter Secure APX01687 E3M024	Check Meter Secure APX01688 E3MO24	Secure APX01689 E3MO24
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type Meter CT Ratio	are Intact: :: ergy Meters  Unit PRI - A SEC- A PRI-KV	Main Meter Secure APX01687 E3M024 200 1 33KV/√3	Check Meter Secure APX01688 E3M024 200	Secure APX01689 E3MO24 200 1 33KV/√3
Whether seals If No, Remarks Details of Billing End Description Make Meter Number Type	are Intact: :: ergy Meters  Unit PRI - A SEC- A	Main Meter Secure APX01687 E3M024 200 1	Check Meter	APX01689 E3MO24 200 1

# Brief description of the installed technology and equipment:

Particulars	Details
Project Activity	Betul Wind Farms
Project Capacity & Units	49.5 MW & 33 Nos WTGs
Project Commercial Status	Grid Connected
Project Evacuation Details	132/33 KV Gudgaon Sub Station of MPPTCL
Total number of Wind Turbine	33 No.
Rated power for Wind Turbine	1500 kwh
Make Wind turbine	V82 / Regen Powertech
Rotor diameter for Wind turbine	82.3 M
Hub height	85 MTS
Turbine Type	Tubular
Power Control	Pitch
Cut in wind speed	2.5 M/S
Cut-out Wind speed	22.5 M/S
Rated wind speed	1 M/S

		l Wind Farn JP-I) 19.5 N		<b>Betul Wind Farms</b> (GROUP-II) 30 MW						
WTG ID	Total WTGs	Installe d Capacit y MW	Commissioning Date	WTG ID	Total WTGs	Capacity MW	Commissioning Date			
B20,B22 ,B27	3	4.5	18/07/2014	B11	1	1.5	17/10/2014			
B21,B28	2	3	09/08/2014	B08,B25	2	3	31/12/2014			
B17, B18,B19 ,B31	4	6	22/09/2014	B06,B07	2	3	01/01/2015			
B16	1	1.5	02/10/2014	B01,B02 ,B03,B0 5,B10,B 23 ,B24	7	10.5	03/01/2015			
B14	1	1.5	04/10/2014	B04	1	1.5	04/01/2015			
B12	1	1.5	17/10/2014	B29	1	1.5	05/01/2015			
B13	1	1.5	17/10/2014	D01,D02 ,D04	3	4.5	06/01/2015			
		3	4.5	07/01/2015						
Total	33 WTGs									

Particulars	Details
Project Activity	Blyth Wind Park Pvt Ltd
Project Location	Kalyandurg (AP)
Project Capacity & Units	25.6 Mw & 16 WTGs of 1.6Mw GE 87m
Project Evacuation Details	Power Evacuated through 33kv Line and connected to 220/132/33kv APTRANSCO substation SS Kalyandurg.
Total number of Wind Turbine	16 Nos
Rating of Photovoltaic Module / Wind Turbine / Hydro Units	GE 1.6Mw (Rotor 87m) (Hub Height 80M)
Make Solar Module / Wind turbine / Hydro Units	GE
LT Switchgear	ABB
LT Cable	400 Sq.mm Single core (14 runs)
No. of Inverter & Capacity	16 X 1.6Mw

	Blyth Wind Park Total Installed Capacity-25.6 MW									
INST_CAPACITY (MW)	LONGITUDE	LATITUDE	Commissioning Date							
1.6	72.4798	16.09721	01/09/2014							
1.6	72.4770	16.09555	01/09/2014							
1.6	72.5403	16.09643	01/09/2014							
1.6	72.5456	16.09465	01/09/2014							
1.6	72.5265	16.09113	01/09/2014							
1.6	72.4554	16.09218	01/09/2014							
1.6	72.5293	16.08920	01/09/2014							
1.6	72.5709	16.08253	01/09/2014							
1.6	72.5644	16.08095	01/09/2014							
1.6	72.5901	16.07856	01/09/2014							
1.6	72.4715	16.10265	09/04/2015							
1.6	72.4693	16.10440	07/01/2015							
1.6	72.4644	16.10623	07/01/2015							
1.6	72.5285	16.11338	07/01/2015							
1.6	72.4963	16.11740	07/01/2015							
1.6	72.4952	16.11931	07/01/2015							

Particulars	Details
Project Activity	Pradeep Metals Limited
Project Location	JTH -116, Village Umarani, Taluk Jath, Dist. Sangali, Maharashtra
Project Capacity & Units	2.1 MW & 01 No
Project Evacuation Details	110/33 KV Jath Sub Station
Total number Wind Turbine	01
Rating	2100 kw
Make	S-97 / Suzlon
Rotor diameter for Wind turbine	97 MTS
Hub height	90 MTS

Name	Installed Capacity (MW)	Commissioning
		Date
Pradeep Metals WTG		31/03/2015
(JTH 116)	2.1	

## Application of methodologies and standardized baselines

#### References to methodologies and standardized baselines

SECTORAL SCOPE – 01 Energy industries (Renewable/Non-renewable sources)

TYPE I – Renewable Energy Projects

SCALE – Large Scale

CATEGORY – ACM0002, version 20.0

#### Applicability of methodologies and standardized baselines

The project activity involves generation of grid connected electricity from the construction and operation of a new wind power-based power project for supply to grid. The project activity has installed capacity of 77.2 MW which qualifies for a large-scale project activity. The project status is corresponding to the methodology ACM0002 version 20.0 and applicability of methodology is discussed below:

This project is included within the UCR Standard Positive List of technologies and is within the large -scale CDM thresholds (e.g., installed capacity greater than 15 MW). The UCR positive list comprises of: (a) generation of grid connected electricity from the construction

- and operation of a new wind power-based power project for supply to grid.
- ❖ Project activity involves power generation with installed capacity of 77.2 MW.
- The project activity is a Renewable Energy Project i.e., Wind Power Project which falls under applicability criteria option 1 (a) i.e., "Install a Greenfield power plant". Hence the project activity meets the given applicability criterion of ACM0002.
- ❖ The project activity is wind energy power project and not a hydro power project activity.
- The project activity does not involve any retrofit measures nor any replacement to existing WEGs. Hence there are no new units having either renewable or non-renewable components (e.g., a wind/diesel unit).
- ❖ The project activity is not a combined heat and power (co-generation) system.
- No biomass is involved, the project is only a wind energy power project. The case for retrofit, rehabilitation or replacement, towards a Large-scale project is also not applicable.
- The project activity is a voluntary coordinated action. The project activity is a greenfield of 77.2 MW Wind Electric Project, i.e., no capacity addition was done to any existing power plant.
- ❖ The project activity is not a landfill gas, waste gas, wastewater treatment and agroindustries project, and does not recover methane emissions and is not eligible under any relevant Type III category.
- The project activity comprises of renewable power/energy generation through wind energy and displaces fossil fuel powered electricity from the regional grid by supplying renewable power to the grid itself. Hence this UNFCCC CDM Methodology is applicable and fulfilled.
- The project activity involves the installation of new power plants at listed sites where there was no renewable energy power plant operating prior to implementation of project.

#### Applicability of double counting emission reductions

There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the generation/feeding point with the grid.

Agreement for Double Counting Avoidance from Proponents has been provided duly signed by M/s Atria Brindavan Power Pvt Ltd (M/s Blyth Wind Park Private Limited & M/s Betul Wind Farms Pvt Limited) and M/s Pradeep Metals Limited on 19.04.2023.

#### Project boundary, sources and greenhouse gases (GHGs)

As per applicable methodology ACM0002 version 20.0, "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system

that the UCR project power plants are connected". The project boundary encompasses the physical, geographical site of the wind energy power plant, the energy metering equipment and the connected regional electricity grid.

	Source	GHG	Included?	Justification/Explanation	
Baseline		CO <sub>2</sub>	Included	Major source of emission	
	Grid connected electricity	CH <sub>4</sub>	Excluded	Excluded for simplification. This is conservative	
		N <sub>2</sub> O	Excluded	Excluded for simplification. This is conservative	
Project Activity	6 6 11	CO <sub>2</sub>	Excluded	Excluded for simplification. This is conservative	
	Greenfield Wind Power Project	CH <sub>4</sub>	Excluded	Excluded for simplification. This is conservative	
		N <sub>2</sub> O	Excluded	Excluded for simplification. This is conservative	













#### Establishment and description of baseline scenario (UCR Protocol)

#### **Net GHG Emission Reductions and Removals:**

$$ER_v = BE_v - PE_v - LE_v$$

Where:

 $ER_y$  = Emission reductions in year y (tCO<sub>2</sub>/y)

 $BE_v$  = Baseline Emissions in year y (t  $CO_2/y$ )

 $PE_v = Project emissions in year y (tCO<sub>2</sub>/y)$ 

 $LE_y$  = Leakage emissions in year y (tCO<sub>2</sub>/y)

#### a) Baseline Emissions

Baseline emissions include only CO<sub>2</sub> emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.

The Annual Emission Reductions to be calculated are as follows: BE<sub>V</sub> = EG BL,VI x EF, CO2, GRID, V

Where:

 $BE_y$  = Emission reductions in year y (tCO<sub>2</sub>)

 $EG_{BL,y}$  = Quantity of net electricity supplied to the grid as a result of the implementation of the UCR project activity in year y (MWh)

 $EF_{CO2, GRID, y} = CO_2$  emission factor of the grid in year y (t  $CO_2/MWh$ ) as determined by the UCR Standard.

Total Installed Capacity: 77.2 MW

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
MWh Supplied to Grid	13,842	1,50,905	1,63,048	1,48,098	1,52,921	1,55,148	1,25,894	1,37,149	1,41,911

			49.5 MW L	arge Scale	Wind Pow	er Project o	f Betul Wir	d Farms b	y Atria Brinda	avan Pow	er Pvt. Ltd.			
MonthWise Energy Delivered to Grid (kWh)														
Year	January	February	March	April	May	June	July	August	September	October	November	December	G. Total (kwh)	G. Total (MWh)
2014							3,45,000	12,91,000	18,43,599	15,60,152	12,30,000	17,86,000	80,55,751	8,055.75
2015	28,62,999	44,80,000	53,26,000	81,45,000	1,30,47,000	1,13,87,000	1,83,11,000	1,79,74,434	74,46,000	29,44,216	24,03,047	33,25,706	9,76,52,402	97,652.40
2016	20,90,391	62,54,578	71,98,509	1,12,13,094	1,38,22,725	1,16,42,900	1,38,85,925	1,61,39,389	1,23,80,280	59,45,404	25,48,882	37,66,472	10,68,88,549	1,06,888.55
2017	39,87,971	51,03,677	76,97,993	1,34,94,632	1,10,94,518	1,15,00,809	1,66,39,024	1,21,81,117	54,34,888	35,68,084	19,02,760	28,66,995	9,54,72,468	95,472.47
2018	23,18,152	39,30,691	79,41,253	94,39,501	1,28,92,506	1,08,37,231	1,59,76,420	1,86,52,908	91,94,773	33,15,405	14,48,122	16,88,435	9,76,35,397	97,635.40
2019	37,17,606	59,25,000	38,66,000	56,55,849	1,49,18,610	1,20,46,282	1,58,45,878	1,76,86,133	97,05,549	36,95,792	18,50,381	27,50,190	9,76,63,270	97,663.27
2020	35,31,142	39,21,817	61,00,026	66,96,776	1,15,90,427	98,05,682	58,76,722	1,60,72,985	54,34,179	52,99,915	35,62,406	19,83,790	7,98,75,867	79,875.87
2021	35,83,734	36,84,503	67,97,299	75,05,752	1,22,52,664	1,24,68,465	1,50,74,502	1,14,83,298	77,25,535	40,67,000	32,74,857	27,54,661	9,06,72,270	90,672.27
2022	41,71,000	51,60,000	67,54,000	1,03,43,000	1,27,42,000	1,00,06,000	1,45,40,000	1,25,46,000	85,86,000	71,97,000	21,07,000	26,38,000	9,67,90,000	96,790.00
				Tota	l Generation	from 2014 to	December 2	)22 in kWh					77,07,05,974	7,70,705.97

			26.5 MW	Large Scale	e Wind Pov	ver Project	of Blyth Wi	nd Park by	Atria Brinda	van Powe	r Pvt. Ltd.			
MonthWise Energy Delivered to Grid (kWh)														
Year	January	February	March	April	May	June	July	August	September	October	November	December	G. Total	G. Total (MWh)
2014									20,35,620	10,41,740	13,52,010	13,56,930	57,86,300	5,786.30
2015	12,37,460	27,65,020	19,35,860	19,77,990	21,10,870	65,25,260	1,17,50,620	95,84,810	58,65,520	14,73,770	21,53,530	25,52,790	4,99,33,500	49,933.50
2016	27,00,030	24,57,320	24,24,490	21,94,010	53,40,770	79,18,680	89,24,040	77,50,750	67,90,610	26,25,350	16,05,360	23,06,890	5,30,38,300	53,038.30
2017	24,91,610	27,11,990	21,46,620	28,73,340	55,55,070	85,09,290	1,04,25,250	63,59,400	30,77,500	16,39,700	16,41,100	21,89,200	4,96,20,070	49,620.07
2018	11,69,900	20,88,100	25,15,600	18,00,900	29,29,000	81,51,400	1,14,55,800	1,15,84,100	34,02,100	20,72,300	20,93,600	17,83,700	5,10,46,500	51,046.50
2019	18,66,500	21,87,300	18,99,700	22,19,900	50,24,600	73,81,300	1,06,07,900	1,01,99,800	60,20,600	15,67,400	20,36,200	29,09,100	5,39,20,300	53,920.30
2020	21,20,600	19,72,000	16,04,900	22,12,300	42,16,000	67,65,500	47,72,000	80,17,900	41,25,900	23,58,900	17,26,100	23,29,500	4,22,21,600	42,221.60
2021	20,10,600	18,38,100	23,56,000	19,27,500	35,82,400	71,16,300	86,02,500	54,11,400	57,95,600	11,47,500	16,08,700	17,51,300	4,31,47,900	43,147.90
2022	17,00,700	16,53,700	21,59,400	17,89,600	61,49,600	58,80,700	76,59,000	60,77,600	42,09,700	12,86,400	11,85,500	17,22,600	4,14,74,500	41,474.50
				Total Ge	eneration fr	om 2014 to	December	2022 in k	Wh				39,01,88,970	3,90,188.97

### Pradeep Metals

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
	Export								
	Units	<b>Export Units</b>	Export Units	Export Units	<b>Export Units</b>	<b>Export Units</b>	<b>Export Units</b>	Export Units	<b>Export Units</b>
Month	(Kwh)	(Kwh)	(Kwh)	(Kwh)	(Kwh)	(Kwh)	(Kwh)	(Kwh)	(Kwh)
January		0	2,00,895.16	0	1,55,318.70	1,31,020.98	1,91,460.69	1,43,409.59	2,03,762.05
February		0	2,14,048.39	0	1,99,038.80	87,889.87	2,14,771.36	1,95,447.95	1,59,491.68
March		58	2,95,145.93	0	1,58,467.03	2,57,567.89	2,31,050.01	1,72,279.92	1,84,940.72
April		48,791.80	3,24,430.66	0	2,26,439.80	2,60,146.23	2,02,643.84	2,16,470.90	1,95,347.61
Мау		2,86,914.54	4,59,158.01	2,05,267.60	3,10,272.07	3,74,747.70	3,13,345.94	3,92,127.65	4,46,863.68
June		5,64,873.06	5,72,021.68	5,80,647.71	5,57,895.48	5,70,248.28	5,60,157.16	5,12,887.28	4,36,383.78
July		7,32,542.64	6,98,693.54	8,62,612.80	8,35,951.33	7,23,593.29	4,23,022.37	6,39,787.51	5,98,972.51
August		5,31,844.02	2,74,235.65	4,74,419.96	7,42,932.26	7,66,930.86	6,97,340.52	3,83,643.80	5,29,482.34
September		2,52,822.75	0	2,36,707.67	2,34,189.79	4,74,278.56	1,67,885.59	4,39,322.13	3,17,393.27
October		1,62,340.05	0	1,11,416.50	2,52,785.88	1,78,654.95	1,50,170.70	1,96,744.10	1,68,751.92
November		2,69,914.51	0	1,89,583.94	2,02,371.26	19,478.13	2,18,125.32	228237.18	2,11,570.09
December		2,95,816.14	0	2,57,770.17	2,40,411.67	2,41,193.24	2,53,298.46	165451.64	1,93,321.40
Total Units	0	3145917.51	3038629.02	2918426.35	4116074.07	4085749.97	3623271.96	3685809.65	3646281.05
	(some	credit issues	were adjusted	d against unit	for the period	of Sept 2015	to 2017.)		
Total Units									
(MWh)	0	3145.91751	3038.62902	2918.42635	4116.074065	4085.749973	3623.271963	3685.80965	3646.28105

#### Issuance Period: 08 years 06 months – 18/07/2014 to 31/12/2022

(BEy) = 11,88,915.38 MWh \*0.9 tCO<sub>2</sub>/MWh = 10,70,239 tCO<sub>2</sub>e (i.e., 10,70,239 CoUs)

Total baseline emission reductions ( $BE_y$ ) = 10,70,239 CoUs (10,70,239 tCO2eq)

Annual baseline emission reductions ( $BE_y$ )

Year	Betul	Blyth	Pradeep	ER
2014	80,55,751	57,86,300	0	12,457.00
2015	9,76,52,402	4,99,33,500	3145918	1,35,814.00
2016	10,68,88,549	5,30,38,300	3038629	1,46,743.00
2017	9,54,72,468	4,96,20,070	2918426	1,33,288.00
2018	9,76,35,397	5,10,46,500	4116074	1,37,628.00
2019	9,76,63,270	5,39,20,300	4085750	1,39,633.00
2020	7,98,75,867	4,22,21,600	3623272	1,13,304.00
2021	9,06,72,270	4,31,47,900	3685810	1,23,433.00
2022	9,67,90,000	4,14,74,500	3646281	1,27,719.00
Tot	al ER (tCO₂)			10,70,239
	Total MWh			
	supplied			11,89,155

#### b) Project Emissions

As per ACM0002 version 20.0, only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the project activity is a wind power project, project emission for renewable energy plant is nil.

Thus,  $PE_v = 0$ .

#### c) Leakage

As per ACM0002 version 20.0, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy generating equipment and therefore the leakage from the project activity is considered as zero.

Hence, **LEy= 0** 

The actual emission reduction achieved during the first crediting period shall be submitted as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

$$ER_y = BE_y - PE_y - LE_y$$
  
= 10,70,239-0-0  
= 10,70,239

Total Emission Reductions ( $ER_y$ ) = CoUs (10,70,239 tCO<sub>2</sub>eq)

	M/s. Betul Wind Farms	M/s. Blyth Wind Park	M/s. Pradeep Metals
Emission Reductions (ERy)	693635.37	351170.07	25434.14
Total			10,70,239

#### **Conclusions:**

Based on the audit conducted on the basis of UCR Protocol, which draws reference from UCR Protocol Standard Baseline, ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0, the documents submitted during the verification including the data, Project Concept Note (PCN) / Monitoring Report (MR), SQAC is able to certify that the emission reductions from the project - 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India (UCR ID – 320) for the period 18/07/2014 to 31/12/2022 amounts to 10,70,239 **CoUs (**10,70,239 **COUS (**10,70,

Santosh Nair Lead Verifier (Signature) Praful Shinganapurkar Senior Internal Reviewer (Signature)

Date: 19/06/2023