



Monitoring report form for CDM programme of activities
(Version 05.0)

MONITORING REPORT			
Title of the PoA	National Solar Power Development Programme, India		
UNFCCC reference number of the PoA	6328		
Version number of the PoA-DD applicable to this monitoring report	1.2		
Version number of this monitoring report	1.0		
Completion date of this monitoring report	01/06/2022		
Monitoring period number	First monitoring period		
Duration of this monitoring period	15/07/2012 to 31/12/2020 (both days included)		
Monitoring report number for this monitoring period	1		
Coordinating/managing entity	Emergent Ventures India Pvt. Ltd.		
Host Parties	Host Party of the PoA	Is this the host Party of a CPA covered in this monitoring report? (yes/no)	
	India	No	
Applied methodologies and standardized baselines	AMS-I.D. "Grid connected renewable electricity generation"; Version 17 Standardized baseline: Not applicable		
Sectoral scopes	01, Energy Industries (renewable / non-renewable sources)		
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by all CPAs covered in this monitoring report in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013 until 31 December 2020	Amount achieved from 1 January 2021
	0	292,270 tCO ₂ e	0
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the CPA-DDs for the CPAs covered in this monitoring report	301,925 tCO ₂ e		

PART I Monitoring of programme of activities (PoA)

SECTION A. Description of PoA

A.1. General description of PoA

>>

The purpose of PoA is to generate energy by implementation of solar power projects and supply generated electricity to the connected grid. All Component Project Activity (CPAs) included in the PoA are implemented within the geographical boundary of India.

This POA includes 10 CPAs with a total planned capacity of 72.75 MW. This monitoring report covers five CPAs with an installed capacity of 26 MW which are:

CPA Reference	CPA Title	Installed Cap, MW
6328-P1-0003-CP1	CPA - 004: 6 MW Solar PV power project, Patan, Gujarat, India	6
6328-P1-0004-CP1	CPA - 003: 5 MW Solar PV power project, Jodhpur District, Rajasthan, India	5
6328-P1-0005-CP1	CPA - 005: 5 MW Solar PV power project, Kutch, Gujarat, India	5
6328-P1-0006-CP1	CPA - 006: 5 MW Solar PV power project, Surendranagar, Gujarat, India	5
6328-P1-0007-CP1	CPA - 007: 5 MW Solar PV power project, Bikaner, Rajasthan, India	5

A.1.1. Corresponding generic component project activities (CPAs)

Title and reference number of the corresponding generic CPA	Version of the PoA-DD	Sectoral scopes	Applied methodologies and standardized baselines
CPA_DD_Generic_Solar PoA_2012_05_21	1.2	01	AMS-I.D. "Grid connected renewable electricity generation"; Version 17

A.1.2. CPAs included in the PoA

Title and UNFCCC reference number of the CPA	Version of the PoA-DD	Title and reference number of the corresponding generic CPA	Crediting period type and duration	Covered in this monitoring report? (yes/no)
CPA - 001: 5 MW Solar PV power project, Patan District, Gujarat, India 6328-P1-0001-CP1	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 15/07/2012 to 14/07/2019	No
CPA - 002: 5 MW Solar PV power project, Sabarkantha District, Gujarat, India 6328-P1-0002-CP1	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 31/01/2013 to 30/01/2020	No
CPA - 004: 6 MW Solar PV power project, Patan, Gujarat, India 6328-P1-0003-CP1	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 01/05/2013 to 30/04/2020	Yes
CPA - 003: 5 MW Solar PV power project, Jodhpur District, Rajasthan, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 01/05/2013 to 30/04/2020	Yes

Title and UNFCCC reference number of the CPA	Version of the PoA-DD	Title and reference number of the corresponding generic CPA	Crediting period type and duration	Covered in this monitoring report? (yes/no)
6328-P1-0004-CP1				
CPA - 005: 5 MW Solar PV power project, Kutch, Gujarat, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 27/06/2013 to 26/06/2020	Yes
6328-P1-0005-CP1				
CPA - 006: 5 MW Solar PV power project, Surendranagar, Gujarat, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 09/07/2013 to 08/07/2020	Yes
6328-P1-0006-CP1				
CPA - 007: 5 MW Solar PV power project, Bikaner, Rajasthan, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 05/03/2014 to 04/03/2021	Yes
6328-P1-0007-CP1				
CPA - 008: 11.25 MW Solar PV Power Project, Rajgarh, Agar, Madhya Pradesh, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 01/04/2015 to 31/03/2022	No
6328-P1-0008-CP1				
CPA - 009: 10.5 MW Solar PV Power Project, Agar and Sehore, Madhya Pradesh, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 01/04/2015 to 31/03/2022	No
6328-P1-0009-CP1				
CPA - 010: 15 MW Solar PV Power Project, Singrauli, Madhya Pradesh, India	1.2	CPA_DD_Generic_Solar PoA_2012_05_21	Renewable 01/08/2017 to 31/07/2024	No
6328-P1-0010-CP1				

A.2. Coordinating/managing entity

>>

Emergent Ventures India Pvt. Ltd.

SECTION B. Implementation of PoA

B.1. Description of implemented PoA

>>

The CPAs covered in this monitoring report are in operation. Details of implementation are available in section C. No sampling approach was applied in the current monitoring report.

B.2. Post-registration changes to PoA

B.2.1. Corrections

>>

No corrections have been made or are proposed to PoA information or parameters fixed at the registration or renewal of PoA as applicable from this monitoring period.

B.2.2. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

No permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents are applied to the current monitoring period.

B.2.3. Changes to programme design

>>

No changes to programme design of the PoA are applicable during the current monitoring period.

B.2.4. Changes specific to afforestation or reforestation activities

>>

This is not an afforestation or reforestation programme. Hence this does not apply to the registered PoA.

PART II Monitoring of CPAs

>>

SECTION C. Implementation of CPAs

C.1. Description of implemented CPAs

>>

The CPAs are greenfield solar energy power plants and are connected to the grid. The renewable electricity thus generated avoids generation of equivalent electricity in the carbon intensive grid and reduces equivalent CO₂ emissions.

Information of the installed technologies, equipment and implementation status of the CPAs is tabulated below.

Title and UNFCCC reference number of the CPA	Modules	Inverters	Installed capacity (MWp)	Commissioning date
CPA - 004: 6 MW Solar PV power project, Patan, Gujarat, India 6328-P1-0003-CP1	128Wp 46,914 Nos.	500kWp 11 Nos.	6.0	04/03/2012
CPA - 003: 5 MW Solar PV power project, Jodhpur District, Rajasthan, India 6328-P1-0004-CP1	290/295/300 Wp 18,090 Nos.	680kWp 7 Nos.	5.0	24/02/2013
CPA - 005: 5 MW Solar PV power project, Kutch, Gujarat, India 6328-P1-0005-CP1	245Wp 20,904 Nos.	1,360kWp 4 Nos.	5.0	23/12/2012
CPA - 006: 5 MW Solar PV power project, Surendranagar, Gujarat, India 6328-P1-0006-CP1	245Wp 20,904 Nos.	1,360kWp 4 Nos.	5.0	16/12/2012
CPA - 007: 5 MW Solar PV power project, Bikaner, Rajasthan, India 6328-P1-0007-CP1	250Wp 23,352 Nos.	630kWp 8 Nos.	5.0	2.5 MW each on 22/03/2013 & 11/04/2013

C.2. Location of CPAs

>>

Title and UNFCCC reference number of the CPA	Location	Geo-coordinates
CPA - 004: 6 MW Solar PV power project, Patan, Gujarat, India 6328-P1-0003-CP1	Village: Charanka Town: Santalpur District: Patan State: Gujarat	Lat: 23° 54' 14.78" N Long: 71° 12' 00.80" E
CPA - 003: 5 MW Solar PV power project, Jodhpur District, Rajasthan, India 6328-P1-0004-CP1	Village: Bawadi Barsingha Tehsil: Phalodi District: Jodhpur State: Rajasthan	Lat: 27° 26' 43.70" N Long: 72° 20' 53.86" E
CPA - 005: 5 MW Solar PV power project, Kutch, Gujarat, India 6328-P1-0005-CP1	Village: Shivilakha Town: Bhachau District: Kutch State: Gujarat	Lat: 23° 23' 4.4618" N Long: 70° 37' 2.7554" E
CPA - 006: 5 MW Solar PV power project, Surendranagar, Gujarat, India 6328-P1-0006-CP1	Village: Tikar Town: Muli District: Surendranagar State: Gujarat	Lat: 22.70761° N Long: 71.41514° E
CPA - 007: 5 MW Solar PV power project, Bikaner, Rajasthan, India 6328-P1-0007-CP1	Village: Gajner Tehsil: Kolayat District: Bikaner State: Rajasthan	Lat: 27° 58' N Long: 73° 00' E

C.3. Post-registration changes to CPAs**C.3.1. Temporary deviations from the monitoring plans in the included CPA-DDs, applied methodologies, standardized baselines or other methodological regulatory documents**

>>

There are no temporary deviations from the monitoring plans in the included CPA-DDs or the applied methodologies for any CPA covered in the current monitoring period.

C.3.2. Corrections

>>

There are no corrections to project information or parameters fixed at the inclusion or renewal of crediting period of any of the CPAs covered in the current monitoring period.

C.3.3. Changes to the start date of the crediting period

>>

There are no changes to the start date of the crediting period fixed at the inclusion of any of the CPAs covered in this monitoring report

C.3.4. Inclusion of monitoring plan

>>

Not applicable in the current monitoring period.

C.3.5. Permanent changes to the included monitoring plans, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

There are no permanent changes to the monitoring plans in the included CPA-DDs, or permanent deviation of monitoring from the applied methodologies for any of the CPAs covered in this monitoring report.

C.3.6. Changes to project design

>>

There are no changes to the project design of any of the CPAs covered in this monitoring report.

C.3.7. Changes specific to afforestation or reforestation CPA

>>

This is not an afforestation or reforestation programme. Hence this does not apply to the registered CPAs.

SECTION D. Description of monitoring system of CPAs

>>

A uniform monitoring system is applied across CPAs and hence this is described here together for each of these.

- 1.CPA 6328-P1-0003-CP1
- 2.CPA 6328-P1-0004-CP1
- 3.CPA 6328-P1-0005-CP1
- 4.CPA 6328-P1-0006-CP1
- 5.CPA 6328-P1-0007-CP1

CPAs require monitoring of “**Net quantity of electricity export to the grid during the year**”. CME has established a well defined monitoring system to monitor and record data from each CPA as also laid out in each CPA-DD.

Net quantity of electricity export to the grid during the year

The net electricity (difference of total export and total import) export to the grid by the project activity is monitored by main meter installed at the interface point. The main meter is used for monitoring the quantity of electricity that is exported and imported between the grid company and the SSC-CPA implementing entity. The monthly electricity sale receipt mentioning the total export and total import is provided by the grid company (purchaser of the power) to the project owner, which is the basis of emission reduction calculation. One back-up meter is installed alongside the main meter.

1.Monitoring Objective

The objective of the monitoring plan is to assure the complete, consistent, clear, and accurate monitoring and calculation of the project emission reductions during the whole crediting period. The SSC-CPA implementing entity is responsible for the implementation of the monitoring plan.

2.Metering System

Below table shows the metering system installed by the project owner for data management of quantity of electricity supplied to the grid:

Monitoring Parameter	Metering System	Status (Yes/ No)
Net electricity supplied to the grid by the SSC-CPA	Main Meter	Yes
	Back-up Meter	Yes

3.Monitoring Responsibility

The SSC-CPA implementing entity has appointed personnel responsible for supervising, verifying and recording data for clear and accurate monitoring and calculation of the project emission reductions during the whole crediting period. The assigned responsibilities and the authorized persons to accomplish the same are given below:

Responsibility	Authorized / Assigned person
----------------	------------------------------

	CPA003	CPA004	CPA005,CPA006	CPA007
Recording of meter reading	Switch Board Operator	Shift Operator	Technician - Switchyard	Executive Engr – M&P
Maintaining log sheets	Switch Board Operator	Shift Operator	Technician - Switchyard	Plant Engineer
Generation of daily and monthly generation report	Switch Board Operator	Shift Operator	Engineer- O & M	Plant Engineer
Data archiving and record keeping	Switch Board Operator	Project Head	Site In-charge	Plant Engineer
Training of the personnel involved in the monitoring of data	Technical Advisor	Project Head	Electrical Engineer	Plant Engineer
Calibration of meters	Project Manager	Project Head	Site In-charge	M&P Division
Communication with PoA CME and DOE	Chief Electrical Engineer	General Manager	Officer - Technology	Executive Director

4.QA/ QC procedure

The monitoring plan includes all the procedures, reports, data personnel appointed to ensure the monitoring activity. The project owner has internal inspections to guarantee the implementation of the monitoring procedures.

The reading from energy meter is taken jointly at the appointed date and time in a month and assigned by the representatives of Grid Company and the SSC-CPA implementing entity at the appointed date and time in a month. The energy injected into the grid is reflected in the monthly statement issued by Grid Company which forms the basis of billing against which an 'Invoice' is issued by the SSC-CPA implementing entity. Thus, the monthly statements is the basis of emission reduction calculations.

Grid company for the respective CPAs is listed below:

CPA Reference	Grid company
CPA 6328-P1-0003-CP1	GUVNL
CPA 6328-P1-0004-CP1	NVVNL
CPA 6328-P1-0005-CP1	GUVNL
CPA 6328-P1-0006-CP1	GUVNL
CPA 6328-P1-0007-CP1	JVVNL

5.Crosschecking

The net electricity generated by the SSC-CPA is reflected in the monthly statement raised by the SSC-CPA implementing entity. Against this monthly statement, the SSC-CPA implementing entity raises the invoice to the grid company for which the payment happen. The power sales receipt issued by the grid company along with invoice is the proof for the amount of electricity supplied to the grid. The net electricity generated as stated in the monthly statement is to be cross-checked by the invoice raised to JVVNL.

6.Procedure for handling uncertainties

a) In the event of failure of meters (main meter & back-up meter)

In the event of failure of main meter, the Grid company personnel are informed for prompt replacement of the failed meter with a calibrated meter. However, the failure will not have any impact on the billing or emission reduction calculation as the back-up meter reading will form the basis till the time faulty main meter is replaced by the calibrated meter.

In the event of failure of back-up meter, the grid company personnel is informed for prompt replacement of the failed meter with a calibrated meter. However, the failure does have any impact on the billing and emission reduction as both are based on the main meter readings. In case of

failure of both main meter and back-up meter, both the meters are to be calibrated immediately and PP will not account any emission reduction during this period.

b) In the event of main and / or back-up meter exceeds the maximum permissible limit of error

If the main metering system and / or back-up metering system is found to be outside the acceptable limits of accuracy, the Grid company personnel is informed for prompt repair / re-calibration / replacement as soon as possible.

7.Data Storage and Archiving

Readings from energy meter are collected under the supervision of the assigned staff. The data is recorded and stored in logs as well as in electronic form. The records are checked periodically and discussed thoroughly by the concerned staff. The data is kept at safe storage for verification of emission reductions generated from the SSC-CPA.

All the data monitored under the monitoring plan is kept for two years after the end of crediting period or till the last issuance of CERs, whichever occurs later.

SECTION E. Data and parameters

E.1. Data and parameters fixed ex ante

Applicable to all CPAs covered under the current monitoring period

Data/Parameter	EF _{grid OM, y}
Unit	tCO ₂ eq/MWh
Description	Operating Margin emission factor of NEWNW grid
Source of data	Version 8, Jan 2013 of Central Electricity Authority (CEA) CO ₂ Baseline Database ¹ .
Value(s) applied	0.9723
Choice of data or measurement methods and procedures	The SSC-CPA owners used the latest operating margin emission factor database available on the CEA website and fix the value ex-ante.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	The Operating Margin emission factor value determined is fixed ex-ante for the entire crediting period of the SSC-CPA.

Data/Parameter	EF _{grid BM, y}
Unit	tCO ₂ eq/MWh
Description	The Build Margin emission factor of NEWNW grid
Source of data	Version 8, Jan 2013 of Central Electricity Authority (CEA) CO ₂ Baseline Database ² .
Value(s) applied	0.9164
Choice of data or measurement methods and procedures	The SSC-CPA owners used the latest build margin emission factor database available on the CEA website and fix the value ex-ante.
Purpose of data/parameter	Calculation of baseline emissions

¹ http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm

² http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm

Additional comments	The Build Margin emission factor value determined is fixed ex-ante for the entire crediting period of the SSC-CPA.
---------------------	--

Data/Parameter	$EF_{grid\ CM, y}$
Unit	tCO ₂ eq/MWh
Description	Combined Margin emission factor of the NEWNE grid
Source of data	Calculated from the Operating and the Build margin emission factor
Value(s) applied	0.9583
Choice of data or measurement methods and procedures	Combined Margin emission factor is calculated as per the “Tool to calculate emission factor for an electricity system, Version 03.0.0 ³ , Annex 22, EB 70”.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	The Combine Margin emission factor value determined is fixed ex-ante for the entire crediting period of the SSC-CPA..

E.2. Data and parameters monitored

CPA 6328-P1-0003-CP1

Data/Parameter	EG _{BL,y}														
Unit	MWh														
Description	Net quantity of electricity export to the grid during the year y.														
Measured/calculated/default	Measured														
Source of data	Monthly statement (i.e. SEA) from the SLDC														
Value(s) of monitored parameter	66,179.90														
Monitoring equipment	<table><tr><td>Purpose</td><td>Main</td><td>Check</td></tr><tr><td>Meter No</td><td>GJ1065A</td><td>GJ1066A</td></tr><tr><td>Meter make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy</td><td>0.2 s</td><td>0.2 s</td></tr></table>			Purpose	Main	Check	Meter No	GJ1065A	GJ1066A	Meter make	Secure	Secure	Accuracy	0.2 s	0.2 s
Purpose	Main	Check													
Meter No	GJ1065A	GJ1066A													
Meter make	Secure	Secure													
Accuracy	0.2 s	0.2 s													
Measuring/reading/recording frequency	Continuously and recorded monthly														
Calculation method (if applicable)	For the purpose of energy accounting, a set of ABT compliant meters (one main meter and one back-up meter) is installed at the interface point. The SLDC (i.e. GETCO) personnel, representative from GUVNL and power producer jointly read the metering system on a particular day of every month. This reading act as the basis for calculation of emission reductions. The meters at the interface point have facilities to record both the export and the import of electricity to / from the grid and give the net electricity exported to the grid. This is stated in the monthly statement (i.e. SEA) generated/issued by SLDC and the invoice is raised on this basis.														
QA/QC procedures	Energy meters are tested/calibrated once in three years.														
Purpose of data/parameter	Baseline emissions calculation														

³ <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v3.0.0.pdf>

Additional comments	The Monitored Data to be kept for a minimum of two years after the end of the crediting period of each SSC-CPA.
---------------------	---

6328-P1-0004-CP1

Data/Parameter	EG _{BL,y}														
Unit	MWh														
Description	Net quantity of electricity export to the grid during the year y.														
Measured/calculated/default	Measured														
Source of data	Monthly statement from the electricity board														
Value(s) of monitored parameter	60,788.36														
Monitoring equipment	<table><tr><td>Purpose</td><td>Main</td><td>Check</td></tr><tr><td>Meter Sr. No</td><td>12527279</td><td>12526399</td></tr><tr><td>Meter make</td><td>L&T</td><td>L&T</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr></table>			Purpose	Main	Check	Meter Sr. No	12527279	12526399	Meter make	L&T	L&T	Accuracy	0.2S	0.2S
Purpose	Main	Check													
Meter Sr. No	12527279	12526399													
Meter make	L&T	L&T													
Accuracy	0.2S	0.2S													
Measuring/reading/recording frequency	Continuously and recorded monthly														
Calculation method (if applicable)	For the purpose of energy accounting, a set of ABT compliant meters (one main meter and one back-up meter) is installed at the interface point. The grid company personnel and power producer jointly read the metering system on a particular day of every month. This reading is the basis for calculation of emission reductions. The meters at the interface point has facilities to record both the export and the import of electricity to/from the grid and give the net electricity exported to the grid. This is stated in the monthly statement generated and the invoice is raised on this final reading.														
QA/QC procedures	Energy meters are tested/calibrated once in three years.														
Purpose of data/parameter	Baseline emissions calculation														
Additional comments	The Monitored Data to be kept for a minimum of two years after the end of the crediting period of each SSC-CPA.														

CPA 6328-P1-0005-CP1

Data/Parameter	EG _{BL,y}																								
Unit	MWh																								
Description	Net quantity of electricity export to the grid during the year y.																								
Measured/calculated/default	Measured																								
Source of data	Monthly statement from the electricity board																								
Value(s) of monitored parameter	57,820.16																								
Monitoring equipment	<table><tr><td>Purpose</td><td>Main</td><td>Check</td><td>Main</td><td>Check</td></tr><tr><td>Meter No</td><td>GJ0998A</td><td>GET11851</td><td>GJ1000A</td><td>GET11794</td></tr><tr><td>Meter make</td><td>L&T</td><td>SECURE</td><td>L&T</td><td>SECURE</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td><td>0.2S</td><td>0.2S</td></tr></table>					Purpose	Main	Check	Main	Check	Meter No	GJ0998A	GET11851	GJ1000A	GET11794	Meter make	L&T	SECURE	L&T	SECURE	Accuracy	0.2S	0.2S	0.2S	0.2S
	Purpose	Main	Check	Main	Check																				
	Meter No	GJ0998A	GET11851	GJ1000A	GET11794																				
	Meter make	L&T	SECURE	L&T	SECURE																				
Accuracy	0.2S	0.2S	0.2S	0.2S																					
Measuring/reading/recording frequency	Continuously and recorded monthly																								

Calculation method (if applicable)	For the purpose of energy accounting, a set of ABT compliant meters (one main meter and one back-up meter) is installed at the interface point. The grid company personnel and power producer jointly read the metering system on a particular day of every month. This reading acts as the basis for calculation of emission reductions. The meters at the interface point have facilities to record both the export and the import of electricity to / from the grid and give the net electricity exported to the grid. This is stated in the monthly statement generated and the invoice is raised on this final reading.
QA/QC procedures	Energy meters are tested/calibrated once in three years.
Purpose of data/parameter	Baseline emissions calculation
Additional comments	The Monitored Data to be kept for a minimum of two years after the end of the crediting period of each SSC-CPA.

CPA 6328-P1-0006-CP1

Data/Parameter	EG _{BL,y}														
Unit	MWh														
Description	Net quantity of electricity export to the grid during the year y.														
Measured/calculated/default	Measured														
Source of data	Monthly statement from the electricity board														
Value(s) of monitored parameter	56,286.39														
Monitoring equipment	<table><tr><td>Purpose</td><td>Main</td><td>Check</td></tr><tr><td>Meter No</td><td>GJ1103A</td><td>GJU65240</td></tr><tr><td>Meter make</td><td>SECURE</td><td>SECURE</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr></table>			Purpose	Main	Check	Meter No	GJ1103A	GJU65240	Meter make	SECURE	SECURE	Accuracy	0.2S	0.2S
Purpose	Main	Check													
Meter No	GJ1103A	GJU65240													
Meter make	SECURE	SECURE													
Accuracy	0.2S	0.2S													
Measuring/reading/recording frequency	Continuously and recorded monthly														
Calculation method (if applicable)	For the purpose of energy accounting, a set of ABT compliant meters (one main meter and one back-up meter) is installed at the interface point. The grid company personnel and power producer jointly read the metering system on a particular day of every month. This reading acts as the basis for calculation of emission reductions. The meters at the interface point have facilities to record both the export and the import of electricity to / from the grid and give the net electricity exported to the grid. This is stated in the monthly statement generated and the invoice is raised on this final reading.														
QA/QC procedures	Energy meters are tested/calibrated once in three years.														
Purpose of data/parameter	Baseline emissions calculation														
Additional comments	The Monitored Data to be kept for a minimum of two years after the end of the crediting period of each SSC-CPA.														

CPA 6328-P1-0007-CP1

Data/Parameter	EG _{BL,y}
Unit	MWh
Description	Net quantity of electricity export to the grid during the year y.
Measured/calculated/default	Measured
Source of data	Monthly statement from the electricity board
Value(s) of monitored parameter	63,915.04

Monitoring equipment	Purpose	Main	Check	Main	Check
	Meter No	11069691	12526409	12526410	12526411
	Meter make	L&T	L&T	L&T	L&T
	Accuracy	0.2S	0.2S	0.2S	0.2S
Measuring/reading/recording frequency	Continuously and recorded monthly				
Calculation method (if applicable)	For the purpose of energy accounting, a set of ABT compliant meters (one main meter and one back-up meter) is installed at the interface point. The JVVNL personnel and power producer jointly read the metering system on a particular day of every month. This reading acts as the basis for calculation of emission reductions. The meters at the interface point have facilities to record both the export and the import of electricity to / from the grid and give the net electricity exported to the grid. This is stated in the monthly statement generated and the invoice is raised on this basis.				
QA/QC procedures	Energy meters are tested/calibrated once in three years.				
Purpose of data/parameter	Baseline emissions calculation				
Additional comments	The Monitored Data to be kept for a minimum of two years after the end of the crediting period of each SSC-CPA.				

E.3. Implementation of sampling plan

>>

This is not applicable as no sampling approach is applied to the current monitoring period.

SECTION F. Calculation of emission reductions or net anthropogenic removals

F.1. Calculation of baseline emissions or baseline net removals

>>

Baseline Emissions: (BE_y)

The baseline emissions are the product of electrical energy baseline EG_{BL,y} expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

$$BE_y = EG_{BL,y} * EF_{CO_2, grid, y}$$

Where:

BE_y = Baseline Emissions in year y (t CO₂)

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

EF_{CO₂, grid, y} = CO₂ emission factor of the grid in year y (t CO₂/MWh)

Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity (EG_{PJ,y}) is calculated as below.

CPA UNFCCC reference number	EG _{PJ,y} (MWh)	EG _{facility,y} (MWh)	EG _{PJ,y} * EF _{grid,CM,y(1)}	BE _y (tCO ₂ e)
CPA 6328-P1-0003-CP1	66,179.90	66,179.90	66,179.90 * 0.9583	63,420
CPA 6328-P1-0004-CP1	60,788.36	60,788.36	60,788.36 * 0.9583	58,253
CPA 6328-P1-0005-CP1	57,820.16	57,820.16	57,820.16 * 0.9583	55,409
CPA 6328-P1-0006-CP1	56,286.39	56,286.39	56,286.39 * 0.9583	53,939
CPA 6328-P1-0007-CP1	63,915.04	63,915.04	63,915.04 * 0.9583	61,249

F.2. Calculation of project emissions or actual net removals

>>

Project emissions: (PE_y)

The SSC-CPA is the implementation of grid connected *solar power generation*, which is a renewable source of power, thus will have no project emissions i.e., PE_y = 0

F.3. Calculation of leakage emissions

>>

Leakage Emissions: (LE_y)

No leakage emissions are considered for the SSC-CPA since no energy generating equipment will be transferred from another activity and no existing equipment will be transferred to another activity i.e., (LE_y) = 0

F.4. Calculation of emission reductions or net anthropogenic removals

CPA UNFCCC reference number	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)			
				Before 01/01/2013	From 01/01/2013 until 31/12/2020	From 01/01/2021	Total amount
CPA 6328-P1-0003-CP1	63,420	0	0	0	63,420	0	63,420
CPA 6328-P1-0004-CP1	58,253	0	0	0	58,253	0	58,253
CPA 6328-P1-0005-CP1	55,409	0	0	0	55,409	0	55,409
CPA 6328-P1-0006-CP1	53,939	0	0	0	53,939	0	53,939
CPA 6328-P1-0007-CP1	61,249	0	0	0	61,249	0	61,249
Total	292,270	0	0	0	292,270	0	292,270

F.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the included CPA-DDs

CPA UNFCCC reference number	Amount achieved during this monitoring period (t CO ₂ e)	Amount estimated ex ante for this monitoring period in the CPA-DD (t CO ₂ e)
CPA 6328-P1-0003-CP1	63,420	67,281
CPA 6328-P1-0004-CP1	58,253	62,930
CPA 6328-P1-0005-CP1	55,409	56,345
CPA 6328-P1-0006-CP1	53,939	55,834
CPA 6328-P1-0007-CP1	61,249	59,535
Total	292,270	301,925

F.5.1. Explanation of calculation of “amount estimated ex ante for this monitoring period in the CPA-DD”

>>

CPA UNFCCC reference number	Ex-ante emission for 365 days (t CO ₂ e)	Number of days in the current monitoring period (days)	Ex-ante estimate of emission reduction for the monitoring period (t CO ₂ e)
CPA 6328-P1-0003-CP1	9,604	2,557	67,281
CPA 6328-P1-0004-CP1	8,983	2,557	62,930
CPA 6328-P1-0005-CP1	8,043	2,557	56,345

CPA UNFCCC reference number	Ex-ante emission for 365 days (t CO ₂ e)	Number of days in the current monitoring period (days)	Ex-ante estimate of emission reduction for the monitoring period (t CO ₂ e)
CPA 6328-P1-0006-CP1	7,970	2,557	55,834
CPA 6328-P1-0007-CP1	8,713	2,494	59,535

F.6. Remarks on increase in achieved emission reductions

>>

CPA UNFCCC reference number	Emissions compared to Ex-ante estimate of emission reduction for the monitoring period (More/ Less)	Difference of achieved emission reductions from ex-ante estimate of emission reduction (%)
CPA 6328-P1-0003-CP1	Less	-5.7%
CPA 6328-P1-0004-CP1	Less	-7.4 %
CPA 6328-P1-0005-CP1	Less	-1.7%
CPA 6328-P1-0006-CP1	Less	-3.4%
CPA 6328-P1-0007-CP1	More	2.9%

The achieved emission reductions from ex-ante estimate of emission reduction in the current monitoring period for most CPAs is lower.

F.7. Remarks on scale of small-scale CPAs

>>

CPA UNFCCC reference number	Project Capacity (MWp)	Scale
CPA 6328-P1-0003-CP1	6.0	Small
CPA 6328-P1-0004-CP1	5.0	Small
CPA 6328-P1-0005-CP1	5.0	Small
CPA 6328-P1-0006-CP1	5.0	Small
CPA 6328-P1-0007-CP1	5.0	Small

All CPAs included in the current monitoring period are within the threshold limit of Type I..

Annexure 1: Meter and Calibration details**6328-P1-0003-CP1**

Main/Check	Main	Check	Remarks
Meter No	GJ1065A	GJ1066A	
Meter make	Secure	Secure	
Accuracy	0.2 s	0.2 s	
Date of Calibration 1	02/04/2015	02/04/2015	Delayed calibration
Valid till	01/04/2018	01/04/2018	
Date of Calibration 2	27/04/2022	27/04/2022	Delayed calibration
Valid till	26/04/2025	26/04/2025	

6328-P1-0004-CP1

Main/Check	Main	Check	Remarks
Meter No	12527279	12526399	
Meter make	L&T	L&T	
Accuracy	0.2S	0.2S	
Date of Calibration 1	17/06/2016	17/06/2016	Delayed calibration
Valid till	17/06/2019	17/06/2019	
Date of Calibration 2	08/09/2017	08/09/2017	No delay
Valid till	07/09/2020	07/09/2020	
Date of Calibration 3	25/10/2018	25/10/2018	No delay
Valid till	24/10/2021	24/10/2021	
Date of Calibration 4	15/02/2020	15/02/2020	No delay
Valid till	14/02/2023	14/02/2023	
Date of Calibration 5	07/04/2021	07/04/2021	No delay
Valid till	06/04/2024	06/04/2024	

6328-P1-0005-CP1

Main/Check	Main	Check	Main	Check
Meter No	GJ0998A	GET11851	GJ1000A	GET11794
Meter make	L&T	SECURE	L&T	SECURE
Accuracy	0.2S	0.2S	0.2S	0.2S
Meter Location	Line-1	Line-1	Line-2	Line-2
	Delay		Delay	
Date of Calibration 1	20/07/2015		20/07/2015	
Valid till	19/07/2018		19/07/2018	
	Delay	Delay	Delay	Delay
Date of Calibration 2	11/06/2022	13/06/2018	11/06/2022	13/06/2018
Valid till	10/06/2025	12/06/2021	10/06/2025	12/06/2021

6328-P1-0006-CP1

Main/Check	Main	Check
Meter No	GJ1103A	GJU65240
Meter make	SECURE	SECURE
Accuracy	0.2S	0.2S
Meter Location	Line-1	Line-1
Date of Calibration 1	15/12/2012	11/12/2012
Valid till	14/12/2013	10/12/2013
	Delay	Delay
Date of Calibration 2	10/06/2022	10/06/2022
Valid till	09/06/2023	09/06/2023

6328-P1-0007-CP1

Main/Check	Main	Check	Main	Check	Remarks
------------	------	-------	------	-------	---------

Meter No	11069691	12526409	12526410	12526411	
Meter make	L&T	L&T	L&T	L&T	
Accuracy	0.2s	0.2s	0.2s	0.2s	
Date of Calibration 1	11/01/2018	11/01/2018	11/01/2018	11/01/2018	Delayed calibration
Valid till	10/01/2019	10/01/2019	10/01/2019	10/01/2019	
Date of Calibration 2	29/01/2019	29/01/2019	29/01/2019	29/01/2019	Delayed calibration
Valid till	28/01/2020	28/01/2020	28/01/2020	28/01/2020	
Date of Calibration 3	28/08/2020	28/08/2020	28/08/2020	28/08/2020	Delayed calibration
Valid till	27/08/2021	27/08/2021	27/08/2021	27/08/2021	
Date of Calibration 4	28/11/2021	28/11/2021	28/11/2021	28/11/2021	Delayed calibration
Valid till	27/11/2021	27/11/2021	27/11/2021	27/11/2021	

- - - - -

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
05.0	8 October 2021	Revision to: • Ensure consistency with version 03.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN).
04.0	6 April 2021	Revision to: • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM project standard for programmes of activities” (CDM-EB93-A07-STAN); • Add a section on remarks on the observance of the scale limit of small-scale CPAs during the crediting periods; • Add "changes specific to afforestation or reforestation activities/CPA" as a possible post-registration changes; • Clarify the reporting of net anthropogenic GHG removals for A/R PoAs between two commitment periods; • Make structural and editorial improvements.
02.0	7 June 2017	Revision to: • Ensure consistency with version 01.0 of the “CDM project standard for programmes of activities (CDM-EB93-A07-STAN); • Make editorial improvements.
01.0	1 April 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report, programme of activities		