



**Verified Carbon
Standard**

GREENFIELD SOLAR POWER MISSION BY FORTUM INDIA



**INFINITE
SOLUTIONS**

Document Prepared by Infinite Solutions

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

Fortum India Private Limited is the promoter of the project activity. The project activity involves installation of 250 MW solar power project.

The project activity replaces the anthropogenic emissions of greenhouse gases (GHG's) by displacing approximately 440,514.42 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/fossil fuel-based power plant, estimated to be approximately 412,674 tCO₂e per year as per PDD. Total estimated GHG emission reductions for the chosen 10-year renewable crediting period will be around 4,539,413 tCO₂.

The monitoring period is from 19-March-2021 to 31-March-2022. The total GHG emission reductions or removals generated in this monitoring period are 544,539 tCO₂e.

Details of the installation of the project are as follows:

Project Investor	Capacity (MW)	COD	Connection with the Grid	State	Usage
Fortum India Private Limited	150	19-March-2021	Indian Grid	Rajasthan	Sale to Grid
	100	01-May-2021			

1.2 Sectoral Scope and Project Type

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

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

Project Type : I - Renewable Energy Projects

Methodology : ACM0002: Grid-connected electricity generation from renewable sources - Version 19.0¹

1.3 Project Proponent

Organization name	Fortum India Private Limited
Contact person	Atishay Jain
Title	Vice President

¹ <https://cdm.unfccc.int/methodologies/DB/5725LCHYPYM411V8OD9SFYVAMFFWNP>

Address	1A, Vandana Building 11, Tolstoy Marg, New Delhi, India, 110001
Telephone	+91-85276-94527
Email	atishay.jain@fortum.com

1.4 Other Entities Involved in the Project

Organization name	Infinite Solutions
Role in the Project	Project Consultant
Contact person	Mr. Jimmy Sah
Title	Chief Operating Officer
Address	214-215, Milinda Manor, Opp. Next Treasure Island, 2 RNT Marg, Indore – 452001, India
Telephone	+91-9644130430
Email	jimmy@infisolutions.org

1.5 Project Start Date

Project Start Date: 19-March-2021²

The project start date is the commissioning date for 150 MW out of total 250 MW.

1.6 Project Crediting Period

Crediting Period Start date: 19-March-2021

Crediting Period End date: 18-March-2031

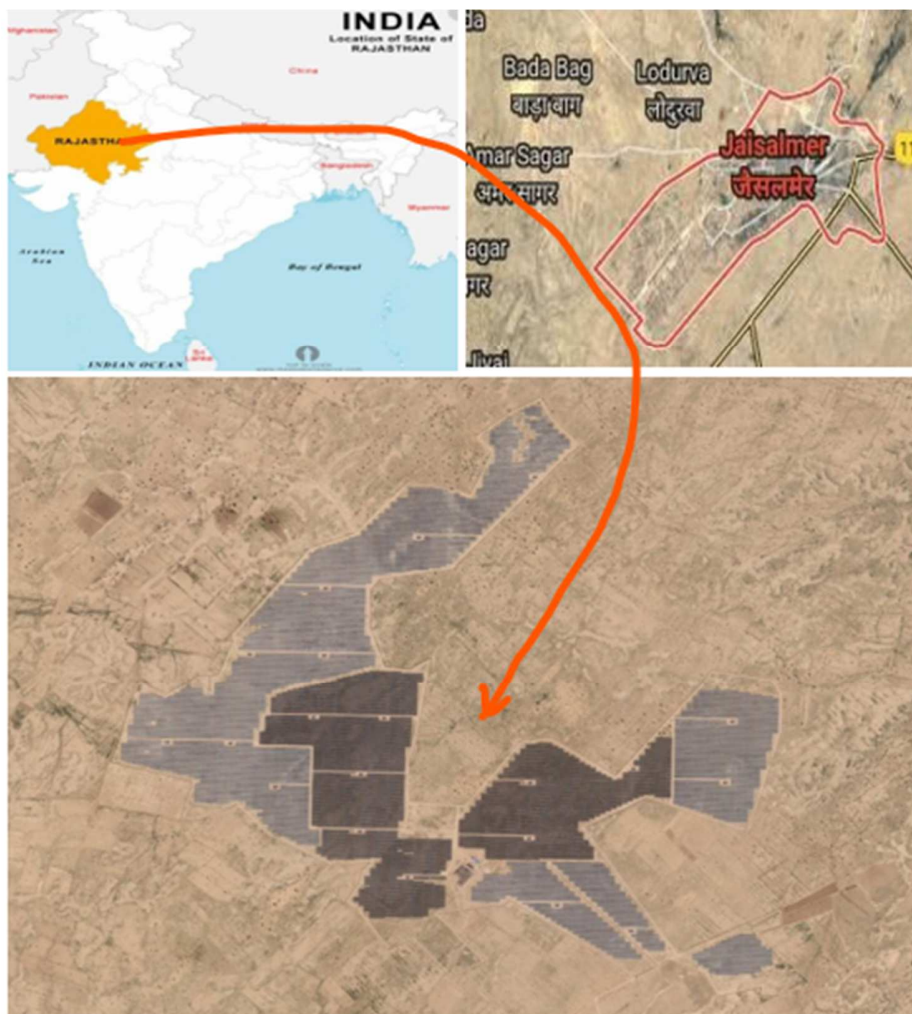
The project activity adopts a renewable crediting period of 10 years which can be renewed a maximum of 2 times.

1.7 Project Location

Project investor	Village	District	State	Latitude	Longitude
Fortum India Private Limited	Luna Khurd, Luna Kala and Betina	Jaisalmer	Rajasthan	26°40'18.21"N	71°32'7.70"E

The project location has been highlighted in the maps shown below

² 150 MW out of 250 MW commissioned date is 19-March-2021.



1.8 Title and Reference of Methodology

Methodology: ACM0002, Grid-connected electricity generation from renewable sources

Project Type: Type-I: Renewable Energy Projects

Version No. : Version 19.0

Reference : CDM Methodology

The methodology refers to the following CDM Tools:

- Tool for the demonstration and assessment of additionality (Version 07.0.0, EB 70, Annex 8).
- Tool to calculate the emission factor for an electricity system⁴ - (Version 07.0 EB 100, Annex 04)

1.9 Participation under other GHG Programs

The proposed project activity has not been registered and is not seeking registration at moment under any other GHG programs

This project activity is not participating in any other GHG program.

1.10 Other Forms of Credit

The proposed project activity neither has nor intends to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

The initial project activity is neither having nor intends to generate any other form of GHG related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

1.11 Sustainable Development Contributions

Contribution to sustainable development: Apart from generation of renewable electricity, the project activity would contribute to the sustainable development of the region - socially, environmentally and economically. The Ministry of Environment, Forests and climate change has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

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

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

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

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

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 581,277 MWh of renewable electricity has been supplied to Indian Electricity grid during the reported period which helps to increase the renewable energy share in the energy mix.	A total of 581,277 MWh of renewable electricity has been supplied to the Indian grid by the project activity since commissioning.
2)	8.6	8.6.1: Proportion youth (aged 15-24) not in education, employment, or training	Implemented activities to decrease	Total: - 94 people employed during this reporting period (40 skilled and 54 unskilled)	94 people were employed since commissioning
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	By generating 581,277 MWh of renewable electricity the project has avoided the emission of 544,539 tCO ₂ e in the atmosphere.	Since its commissioning, the project has avoided the emission of 544,539 tCO ₂ e in the atmosphere.

2 SAFEGUARDS

2.1 No Net Harm

Being renewable solar PV technology-based power generation project, it is considered as one of the cleanest forms of electricity generation projects. The solar PV based power generation neither involves any moving mechanical parts or any type of emission in air nor generates any kind of effluent to the environment during its construction and operation phase. Project activity is not having any negative environmental impacts.

Moreover, renewable solar PV based power generation projects are promoted by Indian government. According to Indian regulation³, the implementation of the renewable energy power project does not require an Environmental Impact Assessment (EIA). Thus, there was no harm identified from the project and hence no mitigations measures are applicable.

2.2 Local Stakeholder Consultation

The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. The followings are the local stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

All the stakeholders have been invited through invitation letters (delivered in hand) and public notice to attend the stakeholders meeting.

The details of the Stakeholder Meetings are as follows:

Date of invitation – 26-April-2019

Date of Meeting – 02-May-2019

Location of Meeting - Project site, Rajasthan

In the introductory speech, the representatives of Project Investor welcomed the gathering and given a brief about the VCS project activity. Subsequent to the introductory speech, stakeholders were explained about the electricity generation from solar project is an environmentally friendly power generation technology contributing to reduction in GHG emissions. They were also explained about the benefits of the solar power projects like, increasing energy availability and improving quality of power and its assistance to the local population by providing employment opportunities to both skilled & unskilled labours.

³ <http://www.environmentwb.gov.in/Spdf/EIA%20Notification,%202006.pdf>

After the speech, the villagers raise the following questions as summarized below: -

Q: How the project activity benefits the villages around the project site and their residents?

A: The project activity will benefit the nearby villagers by providing employment opportunities to local or nearby people and also provides immense opportunity for economic development of the area like increase in business opportunities, improvement in transportation social activities helps to uplift the standard of living.

Q: Attendees were eager to know about the scope of employment generation during the operation of the PV Plant?

A: It was responded that the preference would be given to the local villagers for the skilled and unskilled requirements.

Q: In any case, the project operation will affect the fertility of nearby fertile land?

A: It was explained that plant has nothing to do with the fertility of the soil

Q: Villagers asked about company's future plans regarding the growth of local infrastructure/ facilities/ educations?

A: The project will provide economic development of the area and will surely contribute to the improvement of necessary facilities in the nearby areas.

Project Proponent is open for continuous interaction with stakeholders and maintaining the stakeholder feedback register place at the project site for the comments at any point of time during the project crediting period. PP has explained this mechanism for on-going communication to the local stakeholders and transparently kept the notice mentioning the grievance register and box at the project site.

The accounting of all and any input received during ongoing communication should be taken in consideration to take the appropriate measure to resolve the grievance. No issues and grievance for the project activity has been identified during the current monitoring period.

2.3 AFOLU-Specific Safeguards

Not Applicable

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

Solar Power Project Technology Details

The technology employed, converts solar energy to electrical energy. In solar power generation, energy of solar is converted into mechanical energy and subsequently into electrical energy. The

technology is an environment friendly technology since there are no GHG emissions associated with the electricity generation. There is no transfer of technology involved in the project activity.

Make	Suntech & Jinko
PV Module type	Mono Facial (Polycrystalline) & Bifacial (Monocrystalline)
Module Capacity	Suntech- 340 & 345 Watt
	Jinko- 395 & 400 Watt
Total no. of module	9,23,134
Open Circuit Voltage (Voc)	46V, 46.2V & 48.26V, 48.35V
Short Circuit Current (Isc)	9.39A, 9.48A & 10.13A, 10.32A
Temperature Coefficient of Pmax	-0.38 %/°C & -0.35 %/°C

Inverter Make	Huawei
Inverter Capacity	160 KW
No. of Inverter	1563 Nos

Emission Reductions from anthropogenic sources:

The solar power generated from the Project is displacing the electricity generated from thermal power stations feeding into Indian grid and is replacing the usage of diesel generators for meeting the power demand during shortage periods. Since, the solar power is Green House Gas (GHG) emissions free, the power generated will prevent the anthropogenic GHG emissions generated by the fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only.

The project shall result in replacing anthropogenic emissions of greenhouse gases (GHGs) estimated to be approximately 544,539 tCO₂e per year, thereon displacing 581,277 MWh/year amount of electricity from the grid over the 10 years crediting period.

There are no such events during operation of the project activity that may impact the GHG emission reductions or removals in the monitoring period. However, few breakdowns occur due to scheduled maintenance activity. The details of the breakdown/downtime are provided in Appendix-2 for the reference.

3.2 Deviations

2.3.1 Methodology Deviations

Not Applicable

2.3.2 Project Description Deviations

- The project activity crediting period start date was 01-December-2020, but due to the Covid-19 restrictions delay occurred in the commissioning of the plant, and the plant is commissioned on 19-March-2021. So, crediting period start date is now revised and in line

with the project start date. Therefore, the crediting period start date is 19-March-2021 and crediting period end date is 18-March-2031.

- As found out in the site survey during verification that the geo-coordinates of the project activity are latitude- 26°40'18.21"N, longitude-71°32'7.70"E which is different as per registered VCS PD. Since at the time of project registration, project activity was not commissioned and the location details were tentative, therefore there is slight change in final location of the commissioned project.
- The technical specification of the equipment's (PV module type and its capacity) used for actual installation on site is different from the details provided in the registered VCS PD and the same has been updated in the section 3.1 of the VCS MR.
- The registry of the project activity is transferred from previous account holder "EKI Energy Services Limited" (Account ID-1851) to Fortum India Private Limited (Account ID-4660) and now the sole responsibility of communication and issuance lies with Fortum India Private Limited. Also, as per the declaration submitted to VERRA, all the Carbon Credits rights are now transferred from "Sprng Solar Plus Private Limited" (Formerly known as "Fortum Solar Plus Private Limited") to "Fortum India Private Limited" and therefore "Fortum India Private Limited" will act as the project proponent for the said project activity⁴.
- Infinite Environmental Solutions LLP (Infinite Solutions) is now name as the other entity involved for the project activity replacing EKI Energy Services Limited for the role of project consultant.

3.3 Grouped Projects

The project is not a grouped project activity.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid,OM,y}
Data unit	tCO ₂ /MWh
Description	Operating Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14.0, December -2018
Value applied	0.9610
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 07" as 3-year generation weighted average using data for the years 2015-2016, 2016-2017 & 2017-2018. The data are obtained from "CO ₂ Baseline Database for Indian Power Sector"

⁴ Refer Appendix 3 "VERRA APPROVAL FOR PROJECT PROPONENT CHANGE" for reference.

	version 14, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emissions.
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	EF _{grid,BM,y}
Data unit	tCO ₂ /MWh
Description	Build Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14.0, December -2018
Value applied	0.8644
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 07” as per the latest data available for the most recent year 2018. The data is obtained from “CO ₂ Baseline Database for Indian Power Sector” version 14, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of Baseline Emissions.
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	EF _{grid,CM,y}
Data unit	tCO ₂ /MWh
Description	Combined Margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 14.0, December -2018
Value applied	0.9368
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh) $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM} = Weighting of build margin emissions factor (%) = 25% Calculated as per “Tool to calculate the emission factor for an electricity system, version 07.0.0”. The data is obtained from “CO₂ Baseline Database for Indian Power Sector” Version 14, December 2018, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of Baseline Emissions.

Comments	This parameter is fixed ex-ante for the entire crediting period.
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4.2 Data and Parameters Monitored

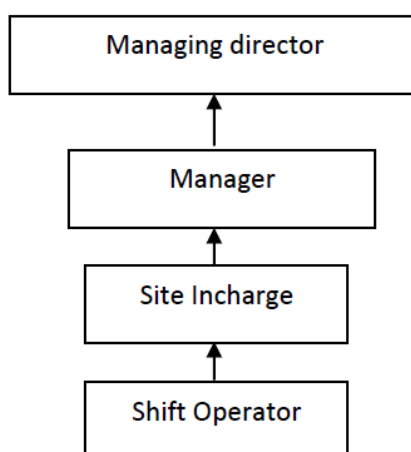
Data / Parameter	EG _{facility,y}
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project (Solar) plant/unit to the grid in year y
Source of data	JMR
Description of measurement methods and procedures to be applied	The value of net electricity generation supplied to the grid as per Joint Meter Reading Report forms the basis for calculation of the emission reductions; which can be cross checked from the invoice raised. Net electricity supplied to grid will be calculated as the difference of the measurealues of “export” and “import” of electricity through the dedicated SEB energy meter installed at the delivery point. Monthly meter readings are taken from the main and check meter installed at metering point and certified by the representatives of SEB Officials and the representatives of the project proponent. Monitoring: Bidirectional Tri vector meter will be used Data type: Measured Type of meter: Static type meter (Main & Check). Both are Bidirectional meters. Class of meter: 0.2s. Calibration frequency: Once in five years. More details about energy meter provided in appendix 1.
Frequency of monitoring/recording	Continuous monitoring, hourly measurement and at least monthly Recording.
Value monitored	581,277
Monitoring equipment	Special Energy Meters (SEMs) of 0.2s accuracy class
QA/QC procedures to be applied	Energy meters will be calibrated once in a five year and faulty meters will be duly replaced immediately. This data may be cross checked with the Monthly Generation Reports

Purpose of the data	The Data/Parameter is required to calculation of baseline emission.
Calculation method	N/A
Comments	The data would be archived electronically and maintained for the entire crediting period plus two years

4.3 Monitoring Plan

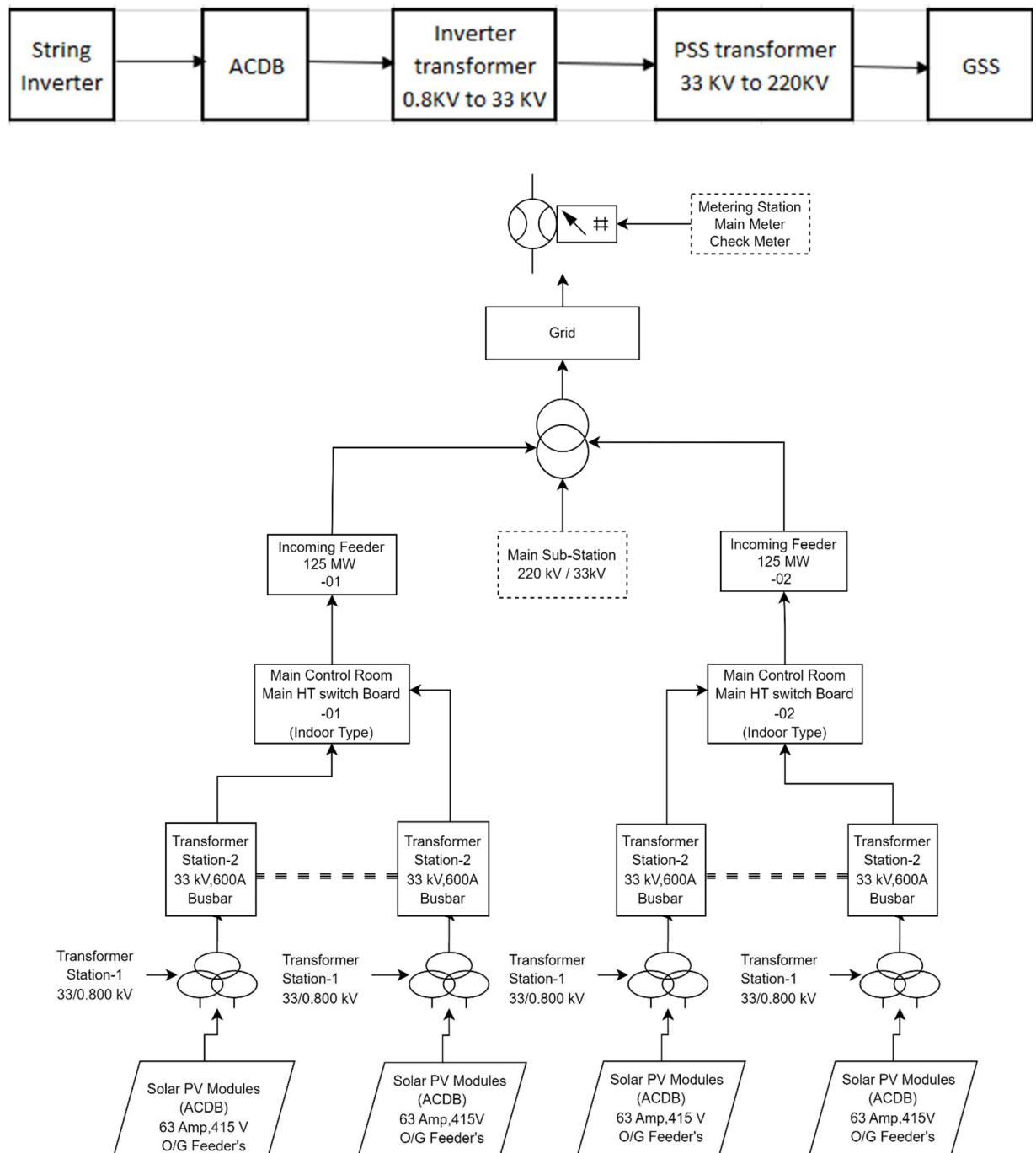
The project proponent has the following operational & management structure in order to monitor the emission reduction. The organization structure for the proposed power plant has a manager as the in-charge for the entire power plant operations and maintenance and directly report to the Managing director. He was assisted by Site In charge. The day-to-day operation like planning the routine maintenance, safety and environmental control was placed under the care of the Site manager. The organizational structure and responsibilities on project operation, monitoring, data recording and ER calculation has been mentioned below:

Organizational Structure



Designation	Responsibilities
Managing director	- Held complete control over monitoring aspects pertaining to the project - Reviewed Monitoring report - Training of the staff performed. - Emission reduction calculation has been maintained
Manager	- Entire power plant operation & maintenance - Periodic checking of recorded & stored data. - Emission reduction calculation & Monitoring report preparation.
Site In-charge	- Day to day Operation - Storage of data - Data Recording
Shift operator	Data collection

The schematic diagram of the project is illustrated below:



Single Line Diagram (Simplified Version)

Data Measurement:

The export and import energy are being measured continuously using above mentioned Main and Check meters located at the substation. Readings of meters shall be taken on a monthly basis by

an authorized officer of SEB in the presence of PP or a representative of PP. Based on the Meter Reading Statement to Fortum India Private limited, invoices are being raised. These invoices can be used for cross-checking the meter readings taken for the respective project activity. In case of the billing cycle and monitoring, period cycle does not match, then daily generation data will be used to determine net electricity export for a particular period.

Data collection and Data Archiving:

Readings from meters were collected in the presence of the plant in-charge. Export and Import data would be recorded and stored in logs as well as in electronic form on a daily basis. The records are checked periodically by the Plant Manager and discussed thoroughly with the plant supervisor. The period of storage of the monitored data would be 2 years after the end of crediting period or till the last issuance of VCUs for the project activity whichever occurs later.

QA/QC procedures:

The energy meters at the feeders are maintained and owned by State Electricity Board. Neither the project proponent nor the site personnel have any control over it. The records are cross-checked with the records of sold electricity to state electricity board. The meters are calibrated by state electricity board at-least once in five years.

The project activities use high-precision monitoring meters to monitor the electricity to the grid. The meters are calibrated and sealed as per the industry practices by the grid utility. Hence, high quality is ensured. Electricity sales receipts is used to test the consistency of the recorded data.

Internal Audit

PP has carried out the internal audit annually and whenever necessary to verify that the monitoring plan satisfies the VCS Standards or the standards provided by other laws and regulations to be conformed to and abides by the procedures specified in the registered VCS PD.

Procedures for handling non-conformances with the validated monitoring plan

If any non-conformity is observed in the proposed monitoring plan, then the same shall be reported to the VCS board at the time of the VCS verification along with the corrective actions taken by the PP.

Emergency preparedness:

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

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

- Data collected by Fortum India Private limited from energy meters installed at the plant end and recorded daily in the plant log books.
- Apportioning the net electricity exported to grid, as recorded in the Monthly Generation Record/Joint Meter Reading statement, based on the number of days in the monitoring period and the number of days for which the Monthly Generation Record/Joint Meter Reading report was taken.

Calculation of net electricity exported to the grid is calculated by both the approaches and conservative value among the two is used for calculation of emission reductions during that period

Personnel training:

In order to ensure the proper functioning of the project activity and proper monitoring of emission reductions, the staff are trained. The Shift In-charge and Plant In-charge are trained in equipment operation, data recording, reports writing, operation and maintenance, and emergency procedures in compliance with the monitoring plan.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

Baseline emissions for the project activity:

$$BE_y = EG_{\text{facility},y} * EF_{\text{grid,CM},y}$$

$EF_{\text{grid,CM},y}$: 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” (tCO₂/MWh) (i.e., 0.9368 tCO₂/MWh).

$EG_{\text{facility},y}$: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

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

Here,

The monitoring period (19-March-2021 to 31-March-2022)

$$EF_{\text{grid,CM},y} = 0.9368 \text{ tCO}_2/\text{MWh}$$

$$EG_{\text{facility},y} = 581,277 \text{ MWh/yr}$$

$$BE_y = 581,277 * 0.9368 = 544,539 \text{ tCO}_2\text{e (Rounded Down value)}$$

5.2 Project Emissions

The project activity involves in harnessing solar power. So, the emissions from the project are zero.

5.3 Leakage

No leakage emissions have been considered and hence the leakage emission is zero.

5.4 Net GHG Emission Reductions and Removals

As per the applied methodology, emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where,

ER_y = Emission Reduction in tCO₂/year

BE_y = Baseline emission in tCO₂/year

PE_y = Project emissions in tCO₂/year

Baseline Emission (BE_y)

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

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

Where,

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

As project activity is the installation of a Greenfield power plant, hence $EG_{PJ, y} = EG_{facility, y}$

The notation of same parameters $EG_{PJ, y}$ can be $EG_{facility, y}$ as project activity is installation of a greenfield power plant.

$EG_{facility, y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh).

Project Emission (PE_y)

As per para 31 of the applied methodology ACM0001 (Version-19.0), no project emissions considered in the project activity.

Hence, project emissions $PE_y = 0$ tCO₂e

Therefore, $ER_y = BE_y$

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
19-March-2021 to 31-December-2021	399,168	0	0	399,168
01-January-2022 to 31-March-2022	145,371	0	0	145,371
Total	544,539	0	0	544,539

Estimated and Actual emission reduction for separate 150MW and 100MW capacity

Capacity (MW)	150	100	250
Estimated Emission reduction	280,455	165,701	446,156
Actual Emission reduction	343578	200962	544,539
Difference in Emission reduction	22.51%	21.28%	22.05%

It is to be noted here that as per the estimated emission reduction to be achieved from the project activity for the current monitoring period is 446,156 tCO₂e, whereas actual emission reductions achieved are 544,539 tCO₂e, which is approximately 22.05% higher than the estimated emission reductions. The actual emission reduction is higher (22.05%) than the estimated value, as the monitoring duration mainly comprises peak seasons of solar radiation but is within the sensitivity range the average PLF for monitoring period observed is 26.87% the corresponding IRR is 9.71% which does not breach the Benchmark equity IRR 12.97% as per the registered PDD.

APPENDIX 1: Meter Details

Energy billing meter installed at the 400/220KV Substation, Bhensara, Jaisalmer, Rajasthan.

Meter Sl. No. ⁵	Make	Class
RJB99499 (Main Meter)	Secure	0.2 s
RJB99500 (Check Meter)	Secure	0.2 s

⁵ This is the first monitoring period; a meter was installed along with the solar project and they are still under the calibration period.

APPENDIX 2: Downtime / Breakdown Details

Date	Equipment	Equipment ID	TS No	SACU No	Inverter Impacted	BD Duration (Minutes)	Description
8-September-2021	PTR-1	TS-10_SACU-01	10	1	Yes	8	Manually off for outgoing cable checking purpose
8-September-2021	PTR-2	TS-04_SACU-01	4	1	Yes	44	Manually off for outgoing cable checking purpose
14-September-2021	IDT	TS-05_SACU-01	5	1	Yes	15	Shutdown by PPC Command during PPC testing
14-September-2021	IDT	TS-15_SACU-02	15	2	Yes	5	Shutdown by PPC Command during PPC testing
21-September-2021	INVERTER	TS-11_SACU_02_INV-03_STR-03	11	2	Yes	25	Low Insulation Resistance of string
22-September-2021	INVERTER	TS-13_SACU_01_INV-02_STR-10	13	1	Yes	12	Low Insulation Resistance of string
23-September-2021	INVERTER	TS-03_SACU_01_INV-02_STR-17	3	1	Yes	19	Low Insulation Resistance of string
24-September-2021	INVERTER	TS-14_SACU_01_INV-01_STR-11	14	1	Yes	38	Low Insulation Resistance of string
25-September-2021	INVERTER	TS-05_SACU_01_INV-01_STR-11	5	1	Yes	47	Low Insulation Resistance of string
27-October-2021	INVERTER	TS-01_SACU_02_INV-04_STR-02	1	2	Yes	104	Internal Device fault of INVERTER
30-October-2021	INVERTER	TS-10_SACU_02_INV-04_STR-19	10	2	Yes	56	Output DC Component Overhigh
31-October-2021	INVERTER	TS-12_SACU_02_INV-03_STR-16	12	2	Yes	14	manually off for faulty inv replacement Work
5-November-2021	INVERTER	TS-13_SACU_01_INV-01_STR-10	13	1	Yes	616	Low Insulation Resistance of string

6-November-2021	INVERTER	TS-07_SACU_02_INV-03_STR-19	7	2	Yes	624	Low Insulation Resistance of string
6-December-2021	STRING	TS-04_SACU_02_INV-12_STR-07	4	2	no	6	Manually disconnected for low voltage module replacement
9-December-2021	INVERTER	TS-07_SACU_02_INV-07	7	2	Yes	543	String cable Theft of INV in night
13-December-2021	STRING	TS-17_SACU_02_INV-09_STR-04	17	2	No	8	Manually disconnected for low voltage module replacement
15-December-2021	STRING	TS-17_SACU_02_INV-5_STR-5	17	1	No	4	Manually disconnected for low voltage module replacement
16-December-2021	STRING	TS-20_SACU_02_INV-13_STR-22	20	2	No	4	Manually disconnected for low voltage module replacement
19-December-2021	STRING	TS-03_SACU_02_INV-17_STR-5	3	2	No	4	Manually disconnected for low voltage module replacement
22-December-2021	STRING	TS-05_SACU_02_INV-15_STR-22	4	2	NO	5	Manually disconnected for low voltage module replacement
25-December-2021	STRING	TS-01_SACU_02_INV-19_STR-17	1	2	NO	5	Manually disconnected for low voltage module replacement
27-December-2021	INVERTER	TS-12_SACU_01_INV-08	12	1	YES	17	Due to Output Overcurrent
2-January-2022	INVERTER	TS-14_SACU_02_INV-20	14	2	YES	55	MCCB Trip due to Ground Fault
6-January-2022	STRING	TS-06_SACU_02_INV-18_STR-18	6	2	No	4	Manually disconnected for low voltage module replacement
10-January-2022	IDT	TS-14_SACU_01	14	1	YES	3	33 KV OG-1 trip due to Overcurrent
14-January-2022	STRING	TS-16_SACU_02_INV-18_STR-8	16	2	No	4	Manually disconnected for low voltage module replacement
16-January-2022	STRING	TS-20_ACDB_04_INV-18_STR-7	20	2	No	5	Manually disconnected for low voltage module replacement

18-January-2022	STRING	TS-5_ACDB_01_I NV-15_STR-13	5	1	No	7	Manually disconnected for low voltage module replacement
20-January-2022	STRING	TS-13_ACDB_04_ INV-18_STR-7&8	13	2	No	5	Manually disconnected for low voltage module replacement
25-January-2022	STRING	TS-02_ACDB_3_I NV-04_STR-11	2	2	Yes	5	Manually disconnected for low voltage module replacement
30-January-2022	INVERTER	TS-19_SACU_01	19	1	Yes	4	Manually shutdown taken for I-V Curve
30-January-2022	INVERTER	TS-19_SACU_01	19	1	Yes	4	Manually shutdown taken for I-V Curve
1-February-2022	STRING	TS-10_SACU_02_ INV-2_STR-14	10	2	No	4	Manually disconnected for low voltage module replacement
4-February-2022	STRING	TS-14_SACU_02_ INV-3_STR-3	14	2	No	5	Manually disconnected for low voltage module replacement
5-February-2022	STRING	TS-11_SACU_02_ INV-12_STR-2	11	2	No	5	Manually disconnected for low voltage module replacement
7-March-2022	INVERTER	TS-09_SACU_02	9	2	Yes	4	Manually shutdown taken for I-V Curve
11-March-2022	INVERTER	TS-20_SACU_01_ INV-7	20	1	Yes	557	String cable Theft of INV in night
11-March-2022	INVERTER	TS-20_SACU_02_ INV-10	20	2	Yes	136	String cable Theft of INV in night
12-March-2022	STRING	TS-20_SACU_01_ INV-08	20	1	No	681	String cable Theft of INV in night
14-March-2022	INVERTER	TS-11_SACU_02	11	2	Yes	5	Manually shutdown taken for I-V Curve
15-March-2022	INVERTER	TS-05_SACU_02_ INV-11	5	2	Yes	219	INV off due to internal device fault
15-March-2022	INVERTER	TS-14_SACU_02	14	2	Yes	5	Manually shutdown taken for I-V Curve

APPENDIX 3: VERRA APPROVAL FOR PROJECT PROPONENT CHANGE

Transfer Request: Account Approved Fortum India Private Limited 4660



From: Verra Registry <registry@verra.org>
Sent: Friday, October 7, 2022 5:27 AM
To: Mantry Shagun <shagun.mantry@fortum.com>
Cc: Jain Atishay <Atishay.Jain@fortum.com>; manish@enkingint.org; Naveen Sharma <naveen@enkingint.org>; Dipen Khandhediya <dipenkhandhediya@sprngenergy.com>; Priyam Soni <priyamsoni@sprngenergy.com>
Subject: Re: Transfer Request: Account Approved Fortum India Private Limited 4660

Dear Mantry,

This is to confirm that the project request has been approved, and the project has been transferred. Please reach out with any questions.

Best,
Anca



Anca Grindeanu | Registry Administrator
www.verra.org

Transfer Request: Account Approved Fortum India Private Limited 4660



From: Mantry Shagun <shagun.mantry@fortum.com>
Date: Tuesday, October 4, 2022 at 3:35 AM
To: Verra Registry <registry@verra.org>
Cc: Jain Atishay <Atishay.Jain@fortum.com>; manish@enkingint.org <manish@enkingint.org>, Naveen Sharma <naveen@enkingint.org>, Dipen Khandhediya <dipenkhandhediya@sprngenergy.com>, Priyam Soni <priyamsoni@sprngenergy.com>
Subject: Transfer Request: Account Approved Fortum India Private Limited 4660

Hi Team

This is further to our request to transfer the project "Greenfield Solar Power Mission by Fortum India" (VCS ID 2069) from the account of EKI Energy Services Limited to the account of Fortum India Private Limited (Account ID – 4660). Please find attached herewith –

- Signed letter of agreement documenting the transfer request signed by the new account holder (Fortum India Private Limited) and project proponent (Sprng Solar Plus Private Limited)
- Communications Agreement between the project proponent and the new account holder

The previous account holder and the project proponent have been kept in CC in this email.

Request you to please process this transfer at the earliest.

Regards
Shagun

From: Mantry Shagun <shagun.mantry@fortum.com>
Sent: Monday, August 22, 2022 5:49 AM
To: Verra Registry <registry@verra.org>
Cc: Jain Atishay <Atishay.Jain@fortum.com>
Subject: FW: Verra Registry: Account Approved Fortum India Private Limited 4660

Hi Team

Fortum India has a project registered with Verra titled VCS ID 2069- "Greenfield Solar Power Mission by Fortum India". This project is currently in our consultant EKI's account. Since we have our own account active now, we want to get this project transferred to our own account.

Please provide your approval/help us with the required steps to initiate this.

Regards
Shagun