Project design document form
(Version 11.0)

BASIC INFORMATION	
Title of the project activity	Solar PV based power generation by Voltas Green in Mauritius
Scale of the project activity	☐ Large-scale ☒ Small-scale
Version number of the PDD	04
Completion date of the PDD	22/03/2021
Project participants	Voltas Green Limited
Host Party	Mauritius
Applied methodologies and standardized baselines	**Methodology:** AMS I.D-Grid connected renewable electricity generation, Version 18.0, valid from 28/11/2014 **Standardized baseline:** Not applicable
Sectoral scopes	Sectoral Scope: 1-Energy industries (renewable- / non- renewable sources)
Estimated amount of annual average GHG emission reductions	22,690 tCO_2e

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

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The proposed project activity involves installation and operation of 13.75 MW_{AC} Solar PV power project based on polycrystalline technology at Queen Victoria site, FUEL substation, District of Flacq, Mauritius by Voltas Green Limited. The project activity involves ground mount fix structure installation and operation of a green field solar photovoltaic (PV) power plant. The project activity will consist 55728 PV module of capacity 270 Wp each at standard test conditions and 5 inverters manufactured by SMA Solar Technology having capacity 2750 kVA each with aggregated installed capacity of 13.75MW_{AC}. As power export capacity of the project activity is 12.24[1] MW_{AC} (Source: Engineering, Procurement and Construction; Power Purchase Agreement; and Environmental Impact Assessment Report). As the proposed capacity of the project activity is less than 15MW and its uses renewable resource to generate power, hence project qualifies as small scale project Type-I, Renewable Energy Project.

The purpose of the project activity is to utilize the sunlight as energy source for carbon-neutral electricity generation. The net generated electricity from the project activity will be supplied to national grid through long-term power purchase agreement (PPA). The project activity will be displacing the estimated annual net electricity generation i.e. 22885 MWh from the national grid, which otherwise would have been generated by grid connected power plant. The project activity doesn't involve any GHG emission sources. The estimated annual average and the total CO2e emission reduction by the project activity over the first renewable crediting period of 7 years are expected to be 22,690 tCO_2e and 158,830 tCO_2e.

In the absence of the project activity an equivalent amount of electricity would have been generated from the connected/ new power plants in the National grid, which are predominantly based on fossil fuels. On the contrary the operation of solar modules is emission free throughout the lifetime of the project activity. As per the applicable methodology the baseline scenario for the project activity is the grid-based electricity system, which is also the pre-project scenario.

The spatial extent of project boundary is project activity and National grid including grid connected power plant.

The proposed project activity of Voltas Green Limited would assist in achieving sustainable development of the host country. As per the sustainability criteria defined by host country, following aspects are considered:

Table 1: Sustainable Development criteria for Mauritius

Criteria	Sub-Criteria	Project
Economic	Foreign Exchange Foreign Investment Transfer of Technology	The Project will reduce the fossil fuel demand and save Mauritius foreign exchange. The new project will allow more competitiveness and eventually lead to research and development of solar PV technology. The project will thus help in generating more foreign exchange currencies. In addition, it will result in a transfer of technology and expertise. The project would reduce the use of fossil fuels, thereby leading to saving natural resources in the country.
Social	Employment Quality of Life Community Development	The Project will lead to the creation of direct and indirect jobs for skilled engineers and technicians. Additionally, the Project will provide temporary employment opportunities during the construction and commissioning phases of the solar PV plant. Furthermore, the new infrastructure and

[1] The same can also be checked at https://ceb.mu/our-activities/production-facts-and-figures

		quality of life of local stakeholders will be improved due to a reduction in the nuisance. The local community will also benefit from the CSR activities of the Project Developer. Therefore, Mauritius Government is supportive of the project because the development of solar PV power is in accordance with the national criteria for sustainable development and national policies relating to energy resources and the environment, which will push forward the use of renewable and clean energy across the country.
Environmental	Protecting the Environment Air Quality Land Water Resources Biodiversity Marine Resources Natural Resource Utilisation Noise, Health, & Safety	The project will reduce the nuisance of the pollution by avoiding use of fossil fuel in the process. The Project will not result in any additional environmental impacts as compared to the baseline scenario. The project also demonstrates respect to the quality of air in the local environment by preventing the burning of fossil fuels to generate electricity that would have been in the baseline scenario.
Energy Security	Clean and affordable energy	The project will improve energy self- sufficiency of the country which is currently heavily reliant on imported fossil fuels (above 80% according to the governmental Digest of Energy and Water statistics (Ministry of Finance and Economic Empowerment, 2013), alleviating the associated risks of price variations.
Others	Corporate Social Responsibility	The PP shall pursue CSR initiatives with the local community, especially local schools.

Project participant as per requirement by DNA has assessed the sustainable development criteria and the monitoring of same during project operation is not required.

A.2. Location of project activity

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The project will be located at Queen Victoria site, Fuel Substation, District of Flacq, Mauritius. The project site is well connected to nearest town by road.

Geographic Coordinates:
S-20°13’ 44.92’’ ; E-57°42’8.65’’

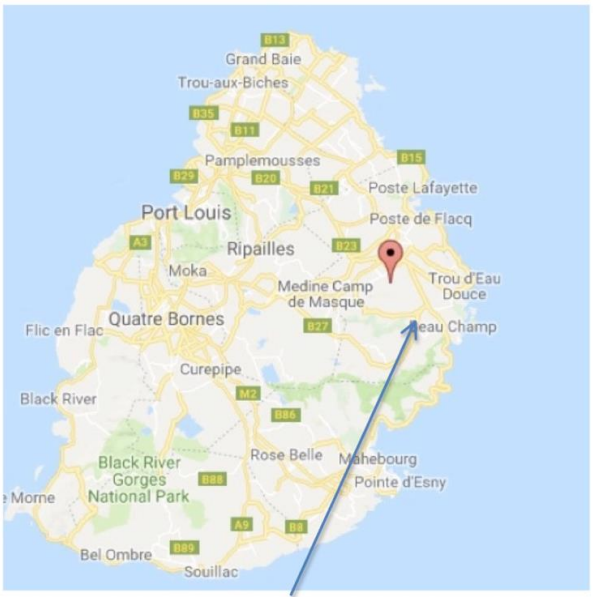

Fig: Project Site

A.3. Technologies/measures

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The proposed project consists of setting-up 55728 solar PV panels with an installed capacity of 13.75 MW_{AC} to produce electricity and having export capacity as per PPA 12.24 MW_{AC}, which will be supplied to the grid of the Central Electricity Board (CEB). The proposed project activity will displace fossil based electricity from the grid, thereby resulting in emission reduction as in absence of the project activity equivalent electricity would have been generated from fossil fuel based thermal power plants.

The project will transfer solar PV technology, methods and skills to Mauritius and demonstrate its applicability and efficiency, thus widening its accessibility. The technology for large scale solar PV power generation is still at starting stage of consideration in the country.

The PV modules installed are new with individual capacity of 270 Wp. They are of high-efficiency, poly- crystalline silicon solar cells with high transmission and tempered glass, which results in module efficiency of up to 16.5%.

The major components of the solar project are the solar modules, module mounting structures, transformer etc. The solar modules are mounted on the module mounting structures. The solar module is a packaged, connected assembly of solar cells which uses the incident photons from the sun light and converts it into electricity. The solar module generates DC power, which is converted to AC power with the help of inverters. The instant project encompasses the following:

Particulars	Details
Nominal power	15.05 MW_{DC}
AC power installed capacity as per inverter	13.75 MW_{AC}
AC power export capacity	12.24 MW_{AC}
No. of modules	55728
Modules Make	Q CELLS
Module Type	G5.0 G 270
Module capacity	270 Wp
Rated voltage	31.1V
Rated current	8.69 Amp
Mounting	Ground Mount
Inverter	5 inverter of 2750 kVA each
Make	SMA Solar Technology

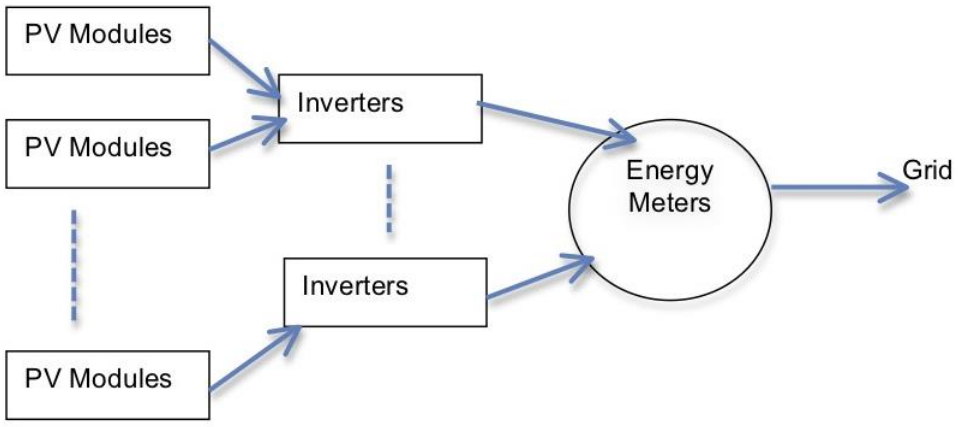

Fig 1: Schematic arrangements of systems and monitoring equipment

The average lifetime of the modules under project activity is around 25 years as per the equipment supplier specifications. Third party based on mean annual global solar radiation of Mauritius estimates the generation potential as 22.885GWh after deducting various losses due to inverter etc.

In the absence of the project activity the equivalent amount of electricity would have been generated by grid connected power plants, which is predominantly based on fossil fuels, hence baseline scenario of the project activity is the grid based electricity system, which is also the pre-project scenario.

The solar project converts the incident sunlight into electricity and is a GHG emission free form of energy generation. The technology and the project do not pose any adverse threat to the environment and contribute positively in reducing GHG emissions by displacing energy generation from fossil fuel powered projects. The proposed project activity is environmentally safe to implement and operate.

A.4. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Mauritius (host Party)	Private entity-Voltas Green Limited	No

A.5. Public funding of project activity

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No public funds either from Annex 1 Parties or any other country has been used for any element of the CDM project activity.

A.6. History of project activity

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The PP hereby confirms inline with PDD completion guidelines that

a) The proposed CDM project activity is neither registered as a CDM project activity nor included as a component project activity (CPA) in a registered CDM programme of activities (PoA); and
b) The proposed CDM project activity is not a project activity that has been deregistered.

A.7. Debundling

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The project activity is not a debundled component of a larger project activity as explained below. As per clause 12(c) of the Simplified Modalities and Procedures for small scale clean development mechanism project activities (decision 4/CMP.1, Annex II), "*To use simplified modalities and procedures for small-scale CDM project activities, a proposed project activity shall: Not be a debundled component of a larger project activity, as determined through appendix C to this annex.*"

As per para 9 of the tool "Assessment of de-bundling for SSC project activities, Version 4, EB83, Annex-13), "A proposed small-scale project activity shall be deemed to be a debundled component of a large project activity if there is a registered small-scale CDM project activity or an application to register another small-scale CDM project activity:

(a) With the same project participants;

(b) In the same project category and technology/measure; and

(c) Registered within the previous 2 years; and

(d) Whose project boundary is within 1 km of the project boundary of the proposed small- scale activity at the closest point."

The proposed project activity by project proponent is the first CDM project; hence, the project activity is not a de-bundled component of a large-scale project activity.

SECTION B. Application of methodologies and standardized baselines

B.1. References to methodologies and standardized baselines

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Following approved baseline & monitoring methodology is applied;
Title: Type-I, Renewable Energy Project
Methodology: AMS I.D. Grid Connected renewable electricity generation **Version**: 18, valid from 28/11/2014. Scope: 01, EB 81

Reference: The approved baseline methodology has been referred from the "Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories." http://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK

The tools referenced in this methodology used for the proposed project includes:
- Tool to calculate the emission factor for an electricity system Version 07.0.0, EB 100 Annex 4
Reference: https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

- Demonstration of additionality of small-scale Project activities" Version 12 EB 99 Annex 3
Reference: http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-21-v12.pdf

Guidelines:

- General guidelines for SSC CDM methodologies, Version 23.0, EB 104, Annex 5.

Reference: https://cdm.unfccc.int/filestorage/e/x/t/extfile-20190916153418116-MethSSC_guid25.pdf/MethSSC_guid25.pdf?t=Qld8cHpld2JkfDBRdMj0lqaQlV2niLNmubf0

B.2. Applicability of methodologies and standardized baselines

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As per the Para 12 of Simplified M & P for small-scale CDM project activities (FCCC/KP/CMP/2005/8/Add.1) – to use simplified modalities and procedures for small-scale CDM project activities, a proposed project activity shall meet eligibility criteria for a small scale CDM project activity. AMS I.D Version 18 has been used and justifications for the eligibility conditions are provided below.

Applicability Conditions	Position of the project activity vis-à-vis applicability conditions
1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass a) Supplying electricity to a national or a regional grid b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity involves installation and operation of solar PV based power generation project with aggregated installed capacity 13.75MW_{AC} the net electricity generated will be supplied to grid.
2. Illustration of respective situations under which each of the methodology (i.e. "AMS-I.D.: Grid connected renewable electricity generation", "AMS-I.F.: Renewable electricity generation for captive use and mini-grid" and "AMS-I.A.: Electricity generation by the user) applies is	As per Table No 2 of AMS – I. D. / Version 18, the AMS I.D is applicable to the project activity.

Applicability Conditions	Position of the project activity vis-à-vis applicability conditions
included in the appendix.	
3. This methodology is applicable to project activities that (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	The project activity is Greenfield Solar PV based power plant. PPs doesn't have any power generation projects at the proposed project site prior to the implementation of the proposed project activity.
4. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: • The project activity is implemented in an existing reservoir with no change in the volume of reservoir; • The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m^2; • The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m^2.	The project activity is a solar PV based power plant. Hence, not applicable
5. If the new unit has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co fires fossil fuel4, the capacity of the entire unit shall not exceed the limit of 15MW.	The project activity is only 13.75 MW Solar PV based renewable electricity generation project. It does not include any non-renewable unit and co-firing system.
6. Combined heat and power (co-generation) systems are not eligible under this category.	The project activity does not involve combined heat and power generation system as it involves solar PV based power generation.
7. In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct5 from the existing units.	It is a Greenfield project and not the extension of an existing renewable energy facility.
8. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	The project activity is not the retrofitting or replacement of an existing facility for renewable energy generation. Hence this criterion in not applicable.
9. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	The proposed project activity is a solar PV based power project, hence criterion not applicable.

Applicability Conditions	Position of the project activity vis-à-vis applicability conditions
10. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	The proposed project activity is solar PV based power generation project, hence criterion not applicable.

Table 2: Applicability of AMS-I.D, AMS-I.F and AMS-I.A based on project types

	Project Type	AMS-I.A	AMS-I.D	AMS-I.F
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

The project activity is installation of 13.75 MW_{AC} solar PV based power generation and there would not be any change in the capacity of the project during its crediting period. Since the project will supply the generated renewable electricity to grid systems and the capacity of the project activity is well below the qualifying limit of 15 MW. Hence the choice of project Type I and category is justified

B.3. Project boundary, sources and greenhouse gases (GHGs)

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As per Para 18 of applied baseline and monitoring methodology AMS I.D, Version-18, the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to. This includes the Solar PV module, inverter and sub-stations.

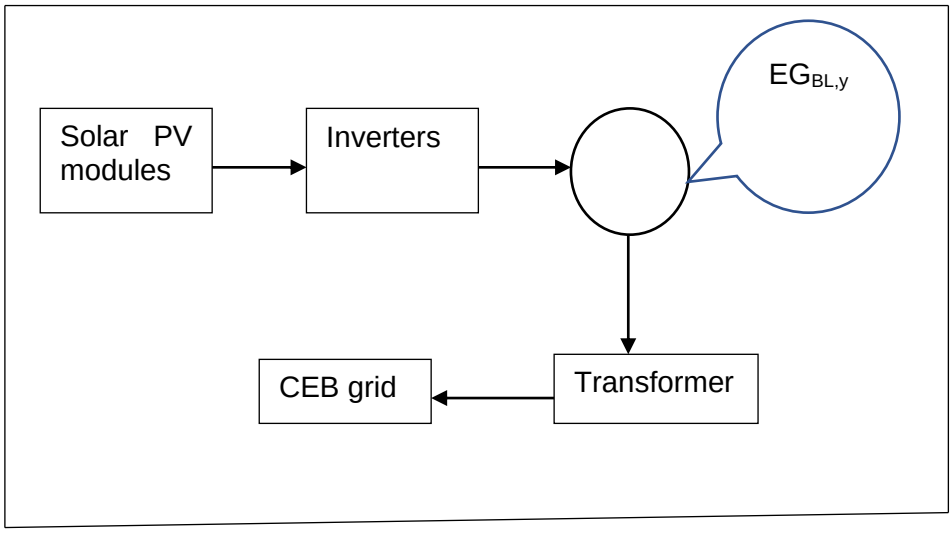

Fig: Project boundary

The proposed project activity will evacuate the power to the grid. Therefore, all the power plants contributing electricity to the Integrated Central Electricity Board (CEB) have been considered in the project boundary for the purpose of baseline estimation. The project activity targets reduction of CO_2e as main GHG greenhouse gas in baseline, there are no GHG emission associated with project activity.

Source		GHG	Included?	Justification/Explanation
Baseline	Electricity generation in grid	CO_2	Yes	Main GHG emission source
		CH_4	No	Neglected for simplification
		N_2O	No	Neglected for simplification
Project activity	Solar PV based power	CO_2	No	No emission associated with power generation from solar
		CH_4	No	
		N_2O	No	

B.4. Establishment and description of baseline scenario

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The project activity involves installation of 13.75 MW_{AC} solar PV based power generation project. The generated power will be sold to grid, which otherwise would have been generated by grid, which possesses a mix of generation types with fossil fuel fired power plants.

As per para 19 of AMS-I.D. (Version 18) "The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. Project activity supplies electricity to grid of Mauritius. In the absence of the project activity same amount electricity would have been generated from grid, in which the electricity is generated by the fossil fuel intensive power plant (Coal and Heavy Fuel oil based). Thus, baseline is in line with para 19 of AMS-I.D. (Version 18).

Para 22 of AMS-I.D. (Version 18) calculates baseline emissions as:

$BE_y = EG_{PJ,y} \times EF_{grid,y}$ ……..(A)

Where,

BE_y = Baseline Emissions in year y; t CO_2

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

$EF_{grid,y}$ = Combined margin CO_2 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" (t CO_2/MWh)

Accordingly, the emission factor of the grid will be used to estimate emission reductions. As per para 23 of AMS-I.D. (Version 18), PP has chosen option (a) and used the combined margin (CM) approach to calculate emission factor, as official data is available for operating margin (OM) and build margin (BM) values, whereas no such data exists in the public domain to support choice of option (b). Hence,

$EF_{grid,y} = EF_{grid,CM,y}$ .....(B)

Data Used:

Parameter	Description	Source
$EF_{OM,y}$	Operating margin CO_2 emission factor for the project electricity system in year *y*	**Calculated as per "*Tool to calculate the emission factor for an electricity system (Version 07.0.0)*" using data from from Grid Emission Factor, Mauritius, dated July 2018 by Central Electricity Board**
$EF_{BM,y}$	Build margin CO_2 emission factor for the project electricity system in year *y*	
$EF_{CM,y}$	Combined margin CO_2 emission factor for the project electricity system in year *y*	
$EG_{PJ,y}$	Quantity of net electricity supplied by the candidate project activity to the grid in year *y*	Estimated generation based on rated capacity of the project activity and the applicable PLF. During the crediting period, records of actual net electricity supply to the grid will be used.
$EG_{PJ,y}$	22885	Third party report in line with para 3(a) of EB48 Annex-11

B.5. Demonstration of additionality

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In accordance with "Demonstration of additionality of small scale project activity" Version-12.0, PP shall provide an explanation to show that the project activity would not have occurred due to at least one of the following barrier

- Investment barrier:
- Technological barrier:
- Barrier due to prevailing practice:
- Other barriers

The project activity reduces anthropogenic emissions of greenhouse gases that would have occurred in absence of the project activity. As per the 6 (c) decision 17/CP.7[2] Para 43, a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.

Further, referring to EB 99 Annex 3 "Demonstration of additionality of small-scale Project activities" (Version 12) [3] Para 11, a positive list of grid-connected renewable electricity generation technologies that are automatically defined as additional, without further documentation of barriers, (e.g. installed capacity up to 15 MW) consists of the following renewable electricity generation technologies:
(a) The following grid-connected and off-grid renewable electricity generation technologies: (i) Solar technologies (photovoltaic and solar thermal electricity generation);
(ii) Off-shore wind technologies;
(iii) Marine technologies (wave, tidal);
(iv) Building-integrated wind turbines or household rooftop wind turbines of a size up to 100 kW;
(v) Biomass internal gasification combined cycle (BIGCC);

(b) The following off-grid electricity generation technologies where the individual units do not exceed the thresholds indicated in parentheses with the aggregate project installed capacity not

[2] http://unfccc.int/resource/docs/cop7/13a02.pdf#page=36

[3] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-21-v12.pdf

exceeding the 15 MW threshold:
(i) Micro/pico-hydro (with power plant size up to 100 kW);
(ii) Micro/pico-wind turbine (up to 100 kW);
(iii) PV-wind hybrid (up to 100 kW);
(iv) Geothermal (up to 200 kW);
(v) Biomass gasification/biogas (up to 100 kW);

As the subject project is the installation of a new small scale Solar photovoltaic power plant with aggregated installed capacity 13.75 MW_{AC}, which is below 15 MW and would contribute in reducing GHG emissions below that would have occurred in the absence of the instant project activity, therefore the same may be considered to be additional.

Prior CDM consideration:
For a proposed CDM project activity with a start date on or after 2 August 2008, the project participants shall notify the designated national authority (DNA) of the host Party of the project activity, if such DNA exists, and the UNFCCC secretariat (hereinafter referred to as the secretariat), in writing of the commencement of the project activity and their intention to seek the CDM status for the project activity, or, through a DOE, publish the PDD for global stakeholder consultation, within 180 days of the start date in accordance with the "CDM project cycle procedure for project activities".

The start date for the project activity is 01/12/2017 (Date of EPC). The project proponent intimated the UNFCCC and DNA of their intention to seek CDM status on 18/05/2018 and 20/05/2018 respectively, which is within 180 days of the project start date.

B.6. Estimation of emission reductions

B.6.1. Explanation of methodological choices

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As per para 22 of AMS-I.D. (Version 18), baseline emissions are calculated as follows:

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

Where:
BE_y = Baseline Emissions in year y; t CO_2

$EG_{PJ,y}$= Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{grid,y}$= Combined margin CO_2 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" (t CO_2/MWh)

Calculation of $EG_{PJ,y}$
As proposed project activity is a greenfield project, in accordance with para 26 of applied methodology

$EG_{PJ,y} = EG_{PJ,\ facility,y}$

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

Calculation of BE_y
Calculation of baseline emissions i.e. BE_y, requires calculation of grid emission factor ($EF_{grid,y}$), which is being presented below.

As per para 23 of the applied methodology, the emission factor can be calculated in a transparent and conservative manner as follows:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the Tool to calculate the Emission Factor for an electricity systemî; OR
(b) The weighted average emissions (in t CO_2/MWh) of the current generation mix. The data of the year in which project generation occurs must be used

The PP has chosen option a i.e. combined margin (CM) consisting of combination OM and BM. Tool to calculate the emission factor for an electricity system (Version 07.0.0), has been used to determine the CO_2 emission factor for displacement of electricity generated by power plants in an electricity system, by calculating the combined margin emission factor (CM) of that electricity system.

The grid emission factor ($EF_{grid,y}$) is determined ex-ante. As per the “Tool to calculate the emission factor for an electricity-system” (Version 07.0.0), the emission factor is not monitored during the crediting period of each project activity but shall be updated at the renewal of the crediting period of the project activity.

The tool indicates six steps for the calculation of the combined margin (CM) emission factor.
The “Grid Emission Factor, Mauritius dated July 2018 prepared by Central Electricity Board” is used to calculated the emission factor of grid.

The emission factor can be calculated in a transparent and conservative manner as follows:
As per para 23 of the applied methodology, the emission factor can be calculated in a transparent and conservative manner as follows:

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the Emission Factor for an electricity system"; or

(b) The weighted average emissions (in t CO_2/MWh) of the current generation mix. The data of the year in which project generation occurs must be used.

The PP has chosen option a i.e. combined margin (CM) consisting of combination OM and BM. Tool to calculate the emission factor for an electricity system (Version 07.0.0), has been used to determine the CO_2 emission factor for displacement of electricity generated by power plants in an electricity system, by calculating the combined margin emission factor (CM) of that electricity system.

Option (a) has been considered to calculate the grid emission factor as per the ‘Tool to calculate the emission factor for an electricity system’ since data is available from an official source.

Grid Emission Factor, Mauritius dated July 2018 prepared by Central Electricity Board (CEB), has been used for the calculation of emission reduction.

As per the "Tool to calculate the emission factor for an electricity system" Version 07.0, EB 100, Annex 4, the following steps have been followed.

STEP 1: Identify the relevant electricity systems;
STEP 2: Choose whether to include off-grid power plants in the project electricity system (optional);
STEP 3: Select a method to determine the operating margin (OM);
STEP 4: Calculate the operating margin emission factor according to the selected method;
STEP 5: Calculate the build margin (BM) emission factor;
STEP 6: Calculate the combined margin (CM) emission factor.

STEP 1: Identify the relevant electricity power systems

The tool defines that "for determining the electricity emission factors, identify the relevant electricity system. Similarly, identify any connected electricity systems". It also states that, "If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used".

Figure below shows that the electrical grid of the island of Mauritius is interconnected: power plants are physically connected through transmission and distribution lines to the project activity. Therefore, the relevant electric power system is the national grid. It is managed by Central Electricity Board (CEB). The calculation of GEF is only for the island of Mauritius.

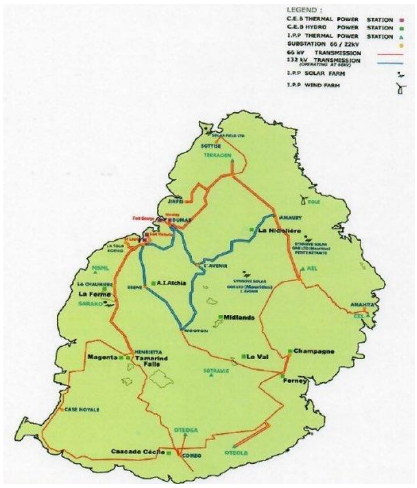

Figure: Electricity System in Mauritius (2017)

Since the project supplies electricity to the national grid of Mauritius i.e. Central Electricity Board (CEB), emissions generated due to the electricity generated by the CEB grid as per CM calculations will serve as the baseline for this project.

STEP 2: Choose whether to include off-grid power plants in the project electricity system (optional)
Project participants have the option of choosing between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.
Option II: Both grid power plants and off-grid power plants are included in the calculation.

Since there are no off-grid power plants in Mauritius, **Option I** is selected for the calculation of both the operating margin (OM) and build margin (BM) emission factors.

STEP 3: Select a method to determine the operating margin (OM) method
The calculation of the operating margin emission factor ($EF_{grid,OM,y}$) is based on one of the following methods, which are described under Step 4:
(a) Simple OM, or
(b) Simple adjusted OM, or
(c) Dispatch data analysis OM, or
(d) Average OM.

The method (c) requires the detailed operation and hourly dispatch data of power plants in the grid. To date, there is no publicly available dispatch data with that level of details for the Mauritian grid. Method (c) is therefore not applicable.

The method (b), simple adjusted OM, needs the annual load duration curve of the grid. Based on the same reason stated above, the data required is difficult to obtain. Method (b) is therefore not applicable.

The method (d), average OM, is used when low-cost/must run resources constitute more than 50% of the total amount of power generation on the grid. According to CEB, the total electric power transmitted to the Mauritian Grid in 2017 was 2,767.1 GWh, in which fossil fuel based thermal power generation was 2,282 GWh, accounting for 85% of total grid electricity generation, and the remaining was from renewable energy sources (hydro, bagasse-based power generation, and landfill gas to electricity). Therefore, the Mauritius grid generation system is dominated by fossil fuel power generation, and the trends are such that the proportion of fossil fuel-based power generation will remain high in upcoming years. Method (d) is therefore not applicable.

The Simple OM method (a) can be used when low-cost/must run resources constitute less than 50% of the total amount of the power generation on the grid, in average of the five most recent years. In 2011 the Mauritian grid generation system was dominated by coal, heavy fuel oil, diesel and kerosene-based power. As Table-1 below shows, hydropower, bagasse, landfill gas and more recently Solar PV and Wind represent all of the low-cost/must run resources with a total share not exceeding 20.4% between 2015 and 2017. Therefore, method (a) is the most appropriate method to calculate the OM emission factor.

Table-1: Share of low cost/must run renewable electricity in the national electricity grid of Mauritius

Share of Renewable (%)	**2015**	**2016**	**2017**
Hydropower (%)	4.6	3.7	3.2
Solar PV (%)	0.8	0.9	1.1
Wind Power (%)	-	0.5	0.5
Bagasse (%)	14.2	13.5	11.9
Landfill (%)	0.8	0.7	0.6
Total (%)	20.4	19.3	17.3

Data Source: Central Electricity Board (CEB), July 2018

PP has chosen ex ante option, thus, no monitoring and recalculation of the emissions factor during the crediting period is required. PP has considered a data vintage of 3-year generation- weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation.

STEP 4: Calculate the operating margin emission factor according to the selected method
The simple OM emission factor is calculated as the generation-weighted average CO_2 emissions per unit net electricity generation (tCO_2/MWh) of all generating power plants serving the system, not including low-cost / must-run power plants / units.

The simple OM may be calculated:

Option A: Based on the net electricity generation and a CO_2 emission factor of each power unit; or

Option B: Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system.

According to the tool, Option B can only be used if:

(a) The necessary data for Option A is not available; and

(b) Only nuclear and renewable power generation are considered as low-cost/must-run power sources and the quantity of electricity supplied to the grid by these sources is known; and

(c) Off-grid power plants are not included in the calculation (i.e., if Option I - only grid power plants are included in the calculation- has been chosen in **STEP 2).**

Given that all these conditions are met in the present case, Option B has been used to calculate the OM emission factor. Under this option, the simple OM emission factor is calculated based on the net electricity supplied to the grid by all power plants serving the system, not including low-cost/must-run power plants/units, and based on the fuel type(s) and total fuel consumption of the project electricity system, as follows:

$EF_{grid,OMsimple,y} = (\sum_I FC_{i,y} \times NCV_{i,y} \times EF_{CO2,I,y}) / EG_y$

Where:

$EF_{grid,OMsimple,y}$ Simple operating margin CO2 emission factor in year y (tCO_2/MWh)

$FC_{i,y}$ Amount of fuel type *i* consumed in the project electricity system in year *y* (mass or volume unit);

$NCV_{i,y}$ Net calorific value (energy content) of fuel type *i* in year *y* (GJ/mass or volume unit);

$EF_{CO2,i,y}$ CO_2 emission factor of fuel type i in year y (tCO_2/GJ)

EG_y Net electricity generated and delivered to the grid by all power sources serving the system, not including low-cost/ must-run power plants/units, in year *y* (MWh);

i All fuel types combusted in power sources in the project electricity system in year y; and

y The relevant year as per the data vintage chosen in Step 3.

For the calculation of the OM emission factor, the consumption data for each fossil fuel used to power the different power plants were obtained from the CEB. The calculation of the OM is based on data for the years 2015, 2016 and 2017. Local values of *NCV;* and IPCC default values of $EF_{CO2,i,y}$ are used. **Table-2 and Table-3** summarize the data used to calculate the OM emission factor.

Table-2: Data for fuel consumption and electricity delivered to grid from different fuel sources, 2015 - 2017.

Fuel Source	**Fuel Consumption (FC, t)**			**Electricity delivered to grid (*EG,* MWh)**		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Coal	612942	617334	643135	966583	980983	1021373
HFO	189406	181458	211753	910088	868976	1026941
Kerosene	5995	3651	3430	18382	11580	10984

Table-3: Net calorific value and emission factor of fuel sources.

Fuel Source	**NCV (GJ/t)**	**EF (tCO_2/TJ)**
Coal	25.5	87.3
HFO	40.19	75.5
Kerosene	43.4	69.7

Using the data in **Table-2** and **Table-3,** the calculated OM is: **1.0282 tCO_2 MWh.**

STEP 5: Calculate the build margin (BM) emission factor.

Option1 (ex-ante) According to the *" Tool to calculate emissions factor for an electricity system",* project participants should use the set of power units that comprises the larger annual generation. The build margin consists of either:

(a) The set of five power units (SET5-units), excluding power units registered as CDM project activities, that started to supply electricity to the grid most recently,

The set of five power units that have been built most recently (excluding power units registered as CDM project activities) represents a gross electricity production (in year 2017) of $AEG_{SET\text{-}5\text{-}units}$ = 128,726 MWh.

Or

(b) the set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently (SET≥20 per cent).

20% of gross electricity production in 2017 represented 551,410 MWh.

$SET_{5\text{-}units}$ do not exceed the 20% of the total generation. The set of most recent power units that amounts to at least 20 percent of electricity generated in 2017 (SET≥20 per cent) is described in **Table-4.**

A power plant/unit is a facility that generates electric power. Several power units at one site comprise one power plant, whereas a power unit is characterized by the fact that it can operate independently from other power units at the same site. Where several identical power units **(i.e.** with the same capacity, age and efficiency) are installed at one site, they may be considered as one single power unit.

Table-**4** : Set of power units under consideration that make up to at least 20 percent annual generation.

Power Unit	**Date of Commissioning**	**Fuel types**	**Installed capacity (MW)**	**Net electricity to grid (MWh)**
Saint Louis P.S	2017	HFO	67.4	108,869
Synnove, L'esperance	2017	Solar	2	1,986
Synnove, Petite Retaite	2017	Solar	2	2,368
Solar Field Ltd	2016	Solar	2	3,621
Eole Wind Farm(CDM)	2016	Wind	9.35	11,882
MSML (ex Medine)	2015	Bagasse	11	15,185
Sarako PV plant	Feb-2014	Solar	15	22,095
Midlands Dam	14-Mar-13	Hydro	0.35	1,134
Fort Victoria	May-12	HFO	15	226,635
	Apr-12		15	
	Apr-12		15	
	Apr-12		15	
	Sep-10		15	
	Sep-10		15	
La Nicoliere	2010	Hydro	0.35	1,175
OTEOLAB (ex CTSav)	Oct-07	Coal/ Bagasse	45	512,306
	Apr-07		45	
$AEG_{total,\ SET\geq20\ per\ cent}$ =				**909,256**
	Total Electricity for 2017 (MWh)			**2,757,052**
		Percentage of total		**32.86%**

$SET_{\geq20\ per\ cent}$ comprises the largest annual electricity generation and is thus selected as SET_{sample}. Since some power units in SET_{sample} started to supply electricity to the grid more than 10 years ago, and since removing these units decreases the resulting electricity generation below 20%, the

CDM units are included in the sample set as well as the unit which started to supply electricity to the grid more than 10 years ago the electricity generation of the new set comprises 20 per cent of the annual electricity generation of the project electricity system (as 20 per cent falls on part of the generation of a unit, the generation of that unit is fully included in the calculation) and the selected sample set is $SET_{sample\text{-}CDM\text{->}10yrs}$.

The build margin emissions factor is the generation-weighted average emission factor (tCO_2/MWh) of all power units m during the most recent year *y* for which electricity generation data is available (2017 in present case), calculated as follows

$$EF_{grid,BM,y} = (\sum_m EG_{m,y} \times FEEL_{,m,y}) / \sum_m EG_{m,y}$$

Where:

$EF_{grid,BM,y}$ Build margin CO2 emission factor in year *y* (tCO_2/MWh);

$EG_{m,y}$ Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh);

$EF_{EL,m,y}$ CO_2 emission factor of power unit m in year y (tCO_2/MWh);

m Power units included in the build margin; and

y Most recent historical year for which electricity generation data is available.

Using data given in **Table-3** and **Table-4,** the BM has been calculated as: **0.8814 tCO_2/MWh.**

Step 6: Calculate the combined margin (CM) emissions factor

The combined margin is the weighted average of the simple operating Margin and the build margin. As per the 'Tool to calculate the emission factor for an electricity system (Version 07.0.0)', for second and third crediting period allows to weigh the operating margin and Build margin at 25% and 75%, respectively

$$EF_{grid,CM,y} = (EF_{OM,y} \times w_{OM}) + (EF_{BM,y} \times w_{BM})$$

Where:

$EF_{grid.BM.y}$ = Build margin CO_2 emission factor in year *y* (tCO_2/MWh);
$EF_{grid,OM.y}$ = Operating margin CO_2 emission factor in year *y* (tCO_2/MWh);
w_{OM} = Weighting of operating margin emissions factor (%); and
w_{BM} = Weighting of build margin emissions factor (%).

The following default values should be used for w_{oM} and w_{BM}:
(a) **Wind** and **solar power generation** project activities: w_{oM}= 0.75 and W_{BM} = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods;

(b) **All other projects: w_{oM}** = 0.5 and w_{BM} = 0.5 for the first crediting period, and w_{oM} = 0.25 and w_{BM} = 0.75 for the second and third crediting period, unless otherwise specified in the approved methodology which refers to this tool.

As the proposed project activity is solar PV based power generation option a is used as below

$$EF_{grid,CM,y} = (EF_{grid,OM,y} \times 75\%) + (EF_{grid,BM,y} \times 25\%)$$

Electronic spreadsheet showing calculation of all these parameters is being submitted separately and the final values are presented below:

Combined margin emission factor of grid $EF_{grid,CM,y}$ = 0.9915 tCO_2e/MWh

The combined margin thus obtained shall be fixed ex-ante for the entire crediting period of the project activity. The OM and BM have been fixed ex-ante for the third renewal crediting period of the project activity.

B.6.2. Data and parameters fixed ex ante

Data/Parameter	$EF_{grid,OM,y}$
Data unit	tCO_2/MWh
Description	Operating Margin CO_2 emission factor for the Grid in year y
Source of data	OM emission factor calculation sheet
Value(s) applied	1.0282
Choice of data or measurement methods and procedures	Calculated in line with "*Tool to calculate the emission factor for an electricity system (Version 07.0.0)*" using data from Grid Emission Factor, Mauritius prepared and provided by Central Electricity Board Mauritius dated July 2018.
Purpose of data	Calculation of combined margin emission factor
Additional comment	The value is fixed ex-ante

Data/Parameter	$EF_{grid,BM,y}$
Data unit	tCO_2/MWh
Description	Build Margin CO_2 emission factor for the Grid in year y
Source of data	BM emission factor calculation sheet
Value(s) applied	0.8814
Choice of data or measurement methods and procedures	Calculated in line with "*Tool to calculate the emission factor for an electricity system (Version 07.0.0)*" using data from Grid Emission Factor, Mauritius prepared and provided by Central Electricity Board Mauritius dated July 2018.
Purpose of data	Calculation of combined margin emission factor
Additional comment	The value is fixed ex-ante

Data/Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2/MWh
Description	Combined Margin CO_2 emission factor for the Grid in year y
Source of data	CM emission factor calculation sheet
Value(s) applied	0.9915
Choice of data or measurement methods and procedures	This has been calculated based on Operating Margin (OM) and Build Margin (BM) calculated based on CEB data
Purpose of data	Calculation of baseline emissions
Additional comment	The value is fixed ex-ante

B.6.3. Ex ante calculation of emission reductions

>>

This is a renewable power generation project, the entire power generated from the project activity will be supplied to grid. This form of energy generation has no associated GHG emissions. So, the emission reductions will just depend on the quantity of electricity being supplied to the grids, which would have been otherwise generated in grid.

Baseline emissions:
Baseline emission is calculated as per equation (1) in section B.6.1

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

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

$EG_{PJ,y}$ = 22885 MWh (As per third party assessment report)

Here,
$EF_{grid,y}$ =0.9915 tCO_2/MWh

BE_y = 22885*0.9915

BE_y =22690 tCO_2/year (rounded down)

Project emissions:
Not applicable as this is a wind energy based power generation project.
PE y = 0

Leakage emissions:
No leakage emissions occur due to this project activity.
LE y = 0

Emission reductions:

ER y = BEy – PEy – LEy
or
ERy = BEy

as
PEy = 0 and

LEy = 0

ER y = 22,690 tCO_2/annum

B.6.4. Summary of ex ante estimates of emission reductions

Year	Baseline emissions (t CO_2e)	Project emissions (t CO_2e)	Leakage (t CO_2e)	Emission reductions (t CO_2e)
Year 1	22,690	0	0	22,690
Year 2	22,690	0	0	22,690
Year 3	22,690	0	0	22,690
Year 4	22,690	0	0	22,690
Year 5	22,690	0	0	22,690
Year 6	22,690	0	0	22,690
Year 7	22,690	0	0	22,690
Total	**158,830**	**0**	**0**	**158,830**
Total number of crediting years	7			
Annual average over the crediting period	22,690	0	0	22,690

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

Data/Parameter	$EG_{PJ,y}$
Data unit	MWh/year
Description	Net quantity of electricity supplied to the grid by the project activity during the year y
Source of data	Measured directly with electricity meter(s) at CEB sub-station
Value(s) applied	22,885
Measurement methods and procedures	The net electricity exported to the grid by solar plant will be ascertained by Central Electricity Board *(*CEB*)* on the basis of monthly Meter Reading (MR) using energy meters with accuracy class 0.2s
Monitoring frequency	Continuous monitoring, hourly measurement monthly recording
QA/QC procedures	Cross check of measurement results with records for sold electricity. Meter Laboratory (ML) of CEB is solely responsible for the selection, installation, calibration, servicing, testing and repairing of all energy meters. As per current CEB guidelines the energy meter will be calibrated once in 4 years, the CEB guidelines will be referred for calibration frequency as same is not in control of PP. However, PP will have check meter at site which will be calibrated as per standard practice/manual from manufacturer.
Purpose of data	Calculation of baseline emissions
Additional comment	All the data will be archived till a period of two years from the end of the crediting period.

B.7.2. Sampling plan

>>
No sampling required as the all parameter will be monitored directly.

B.7.3. Other elements of monitoring plan

>>
The project activity is operated and managed by the project proponent with the help of site in charge (personal from the project proponent) and site O&M contractor. The project proponent has entered into comprehensive Operation & Maintenance contract.

There will two meters installed at substation i.e. main meter and check meter of accuracy class 0.2s, where in case of failure of main meter reading from check meter shall be used for determination of net electricity exported to grid. The meters are tri-vector meters and are capable of recording export as well as import. The electricity exported and imported by the project activity will be recorded on a monthly basis by the representative of the PP and Central Electricity Board.

QA/QC Procedures
There will be two energy meters (one main meter and one check meter) of 0.2s accuracy class at substation. If some defect occurs to any meter, the other meter can be used to obtain the reading. All meters will be calibrated at least once in three years by utility officials or its representatives.

The measurement results will be crosschecked with records of electricity sold such as invoices.

Data Management and Data Archiving
Copies of the break-up sheet, invoices raised to CEB and sales receipts will be retained and archived for the entire crediting period plus two years by the project proponent.

Emergency preparedness plan
Operation and Maintenance team is trained for emergency situations.

Training
Operation and maintenance team will train the staff on operation and maintenance aspects of the plant. The training will ensure preventive maintenance and better operational control for the plant.

Data adjustments/uncertainties

- In case Main meter is found to be faulty/ damaged, during the monthly recording then the reading for that month would be taken from the back up meter for the purpose of billing. The defective main meter would be replaced and the subsequent readings would be taken from the new main meter.
- In case Backup meter is found to be faulty/ damaged, the defective backup meter would be replaced.
- During the calibration / accuracy testing of the main and backup meter if an error is observed to be outside the permissible limits of accuracy then both the Main & backup meter will be replaced immediately and the measured error from the recording meter would be applied to all the recorded readings conservatively since the date of last calibration/ accuracy test of that meter.

For the accurate execution of the Project activity a project team has been constructed. The project team is delegated with the responsibility of monitor and document the electricity generated and also safe keeping of the recorded data. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner. The CDM monitoring team will composed the following staff:

Position	Report To
Operator	Site Engineer
Site Engineer	Site In-Charge
Site In-Charge	Project Owner
CDM Monitoring and Project Manager	Project Owner

SECTION C. Start date, crediting period type and duration

C.1. Start date of project activity

>>
01/12/2017 (Effective date of EPC)

C.2. Expected operational lifetime of project activity

>>
25 years

C.3. Crediting period of project activity

C.3.1. Type of crediting period

>>
Renewable crediting period

C.3.2. Start date of crediting period

>>
25/11/2019 or the date of registration whichever is later.

C.3.3. Duration of crediting period

>>
7 years 00 months

SECTION D. Environmental impacts

D.1. Analysis of environmental impacts

>>

As per the amended Environmental Protection Act (EPA, 2008), an Environment Impact Assessment (EIA) is required for “Power Generating Plants”. Voltas Green Limited (the implementer) has contracted the services of Sustainable Resource Management Limited (EIA Consultant) to carry out an Environmental Impact Assessment and to produce an EIA Report for their proposed project. This EIA aims to maximize positive impacts and minimize negative impacts that the project under consideration could have on the environment. The stipulations of the EPA 2008 have been closely monitored during the conduct of the study in view of achieving total compliance to all environmental requirements prescribed by regulations in force in the Republic of Mauritius.

D.2. Environmental impact assessment

>>

As outlined in the EIA report, the site does not encompass any sensitive flora or fauna given that it is for most of its extent bare land with mainly bushes and shrubs. However, the project area has been dully surveyed by a floral and faunal expert and a terrestrial biodiversity report duly produced. The survey has established that the project site does not harbour any endemic or indigenous floral or faunal species. Besides, the site is devoid of any hydrological features such as river, spring or wetland.

From evidence compiled above, it has been assessed that the environmental impacts associated with the installation and operation of the proposed solar PV power plants will be minimal. Moreover, the proposed mitigating measures will comply with industry standards and applicable regulations. Consequently, an EIA Licence has been granted by the Department of Environment on September 05, 2017 having reference number ENV/DOE/EIA/1720.

SECTION E. Local stakeholder consultation

E.1. Modalities for local stakeholder consultation

>>

The local stakeholder consultation meeting for the project activity has been conducted on 03/10/2018 at Queen Victoria Community Centre from 5.00PM to 6.00PM. The PP has identified relevant stakeholders as nearby villagers, employees, nodal agency and NGOs; the Stakeholders were informed by publishing stakeholder notice in Newspaper **l"express du mercredi** dated 20/09/2018.

- The stakeholder meeting process is followed in the following sequence
- Welcome Speech by the organizers.
- Introduction to ‘Clean Development Mechanism’
- Interactive Sessions with the stakeholders.
- Vote of Thanks

E.2. Summary of comments received

>>

Below are the excerpts of the meeting

Q: Why has Queen Victoria’s site been chosen ?

A: The site has been chosen for several reasons. First because of its sunlight potential, which is very high. Then, the proximity with CEB’s FUEL substation is an important asset. The line to export the electricity on CEB’s grid is just more than a kilometre. Finally, the land, which, was before a sugar cane field, was already adapted in term of landscaping. The solar panels have been installed in former sugar fields already well connected with cane tracks.

Q: What it the benefit of this project to Queen Victoria's village?

A: Several benefits can be observed and intended. First, it will bring a reduction of the air pollution generated by fossil fuel combustion (coal, diesel oil especially) but also different noxious gases. Second, it is a source of employment, as more than one hundred people, amongst which several are from the neighbourhood of Queen Victoria, have been contracted on the construction site. Then, the corporate social responsibility paid by the company once profitable will allow the financing of social actions benefiting to the local welfare in term of education, environment and population implication. Finally, it will bring a very good image and attractivity for the Queen Victoria area.

Q: Which kind of employment can be made available to the people of Queen Victoria after the end of the works?

A: The same kind of vegetation control cleaning as for sugar cane fields will be available. Besides the module cleaning will require manpower and people who have shown their motivation during the construction phase have good chance to be called upon for helping in the maintenance phase also. It is to be noted that it is financially more interesting for the promoter to hire local people since there would be no transport allowance to be paid.

Q: Is it the same project than Voltas Project in Solitude?

A: Yes, it is linked with the 15 MW Solitude Solar Farm, located close to Arsenal and connected to the Riche-Terre CEB substation. This other project is led by the company Voltas Yellow which has some common ownership structure than Queen Victoria Project and has been developed by the same group of companies/partners.

Some other important topics discussed on expected change due to project in context of host country, as Mauritius still holds an important potential for renewable energies, and amongst them solar has an important place. Moreover, more than 8,000 acres of abandoned land can easily be converted into renewable energy production. Also, considering that the youth is less interested in working in cane plantations, the construction sites jobs and operating and maintenance jobs required are interesting alternatives for them to work in a developing and life improving industry.

E.3. Consideration of comments received

>>

There were no negative comments raised by stakeholders in local stakeholder consultation meetings and due to the associated benefits stakeholders have appreciated the proposed project activity.

SECTION F. Approval and authorization

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The host country approval is achieved having reference number ENV/CLI/CDM dated 25/09/2019 and same shall is being submitted to DOE.

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Appendix 1. Contact information of project participants

Organization name	Voltas Green Limited
Country	Mauritius
Address	10 Louis Pasteur Street
Telephone	+230 57279492
Fax	--
E-mail	Sjoonas55@gmail.com
Website	--
Contact person	Mr Sarwar Joonas

Appendix 2. Affirmation regarding public funding

There will be no public funding or ODA used by project activity.

Appendix 3. Applicability of methodologies and standardized baselines

Please refer section B.4 of PDD

Appendix 4. Further background information on ex ante calculation of emission reductions

Please refer section B.6.1 of PDD

Appendix 5. Further background information on monitoring plan

Please refer section B.7.2

Appendix 6. Summary report of comments received from local stakeholders

Please refer section of F.2 of PDD

Appendix 7. Summary of post-registration changes

The proposed Post Registration Changes are:

Changes	Category of Changes	Reason
Installed capacity of the power plant has been corrected as 13.75MW_{AC} from 12.24 MW_{AC}. The change does not impact on applicability of applied	Permanent Changes: Corrections	The installed capacity in registered PDD was mentioned was not clear, as there were 5 number of 2750 kV inverter to be installed site which gives aggregated value as 13.75MW_{AC}. Further, the power purchase agreement states the export

approved methodology, CER estimation and additionality of the project activity.		capacity as 12.24 MW_{AC}. There was minor error in reporting the installed capacity, as in registered PDD the export capacity 12.24MW_{AC} is presented as installed capacity. The installed capacity is now corrected in revised PDD as 13.75MW_{AC} i.e. aggregated installed capacity of inverters and export capacity as per PPA is also indicated as 12.24MW_{AC}. The above falls under permanent changes correction as per para 232 of Standard: CDM project standard for project activities, Version-02.0
Revision in accuracy class of the energy meters: The accuracy class of energy meters changed from 0.5s to 0.2s. it has no impact on compliance with monitoring plan or applicability of applied approved methodology.	Permanent Changes: Corrections	The accuracy class of energy meters mentioned in registered PDD was 0.5s, however the energy meters installed at site are having better accuracy class as 0.2s. The change will lead to more accurate monitoring of values, hence is appropriate. The above falls under permanent changes correction as per para 232 of Standard: CDM project standard for project activities, Version-02.0

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Document information

Version	*Date*	*Description*
11.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM project standard for project activities" (CDM-EB93-A04-STAN); • Make editorial improvements.
10.1	28 June 2017	Revision to make editorial improvement.
10.0	7 June 2017	Revision to: • Improve consistency with the "CDM project standard for project activities" and with the PoA-DD and CPA-DD forms; • Make editorial improvement.
09.0	24 May 2017	Revision to: • Ensure consistency with the "CDM project standard for project activities" (CDM-EB93-A04-STAN) (version 01.0); • Incorporate the "Project design document form for small-scale CDM project activities" (CDM-SSC-PDD-FORM); • Make editorial improvement.

Version	*Date*	*Description*
08.0	22 July 2016	EB 90, Annex 1 Revision to include provisions related to automatically additional project activities.
07.0	15 April 2016	Revision to ensure consistency with the “Standard: Applicability of sectoral scopes” (CDM-EB88-A04-STAN) (version 01.0).
06.0	9 March 2015	Revision to: • Include provisions related to statement on erroneous inclusion of a CPA; • Include provisions related to delayed submission of a monitoring plan; • Provisions related to local stakeholder consultation; • Provisions related to the Host Party; • Make editorial improvement.
05.0	25 June 2014	Revision to: • Include the Attachment: Instructions for filling out the project design document form for CDM project activities (these instructions supersede the "Guidelines for completing the project design document form" (Version 01.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for the application of the methodology (ies) to the project activity in B.7.4 and Appendix 1; • Change the reference number from F-CDM-PDD to CDM-PDD-FORM; • Make editorial improvement.
04.1	11 April 2012	Editorial revision to change version 02 line in history box from Annex 06 to Annex 06b.
04.0	13 March 2012	Revision required to ensure consistency with the “Guidelines for completing the project design document form for CDM project activities” (EB 66, Annex 8).
03.0	26 July 2006	EB 25, Annex 15
02.0	14 June 2004	EB 14, Annex 06b
01.0	03 August 2002	EB 05, Paragraph 12 Initial adoption.

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