CLEAN DEVELOPMENT MECHANISM
SMALL-SCALE PROGRAM ACTIVITY DESIGN DOCUMENT FORM (CDM-SSC-CPA-DD)
Version 01

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NOTE:

(i) This form is for submission of CPAs that apply a small scale approved methodology using the provision of the proposed small scale CDM PoA.

(ii) The coordinating/managing entity shall prepare a CDM Small Scale Programme Activity Design Document (CDM-SSC-CPA-DD)[1,2] that is specified to the proposed PoA by using the provisions stated in the SSC PoA DD. At the time of requesting registration the SSC PoA DD must be accompanied by a CDM-SSC CPA-DD form that has been specified for the proposed SSC PoA, as well as by one completed CDM-SSC CPA-DD (using a real case). After the first CPA, every CPA that is added over time to the SSC PoA must submit a completed CDM-SSC CPA-DD.

[1] The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

[2] At the time of requesting validation/registration, the coordinating managing entity is required to submit a completed CDM-POA-DD, the PoA specific CDM-CPA-DD, as well as one of such CDM-CPA-DD completed (using a real case).

SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small-scale CPA:

CPA [Add number] - [Add CPA title], [Add host country]

Version: [number]
Date: [day, month, year]

A.2. Description of the small-scale CPA:

This CPA involves the development of a [add installed capacity]MW [add solar power technology] plant that will supply electricity to the [add name of grid] grid (hereinafter referred to as "[add name of grid]"). The project site is [add CPA location details].

The project is expected to generate [add generation]MWh of electricity per year and achieve greenhouse gas emission reductions of [add tonnes]tCO_2e per year through displacing carbon intensive power on the [add name of grid] grid.

A.3. Entity/individual responsible for the small-scale CPA:

The CPA implementing entity is [add name of CPA implementing entity]

A.4. Technical description of the small-scale CPA:

[Add CPA technical information]

[Add CPA figure]

Figure 1: [Layout/Technical Schematic] of [add CPA title] project

[Add grid connection information]

Table 1: Technical parameters of CPA

Parameter	Value	Unit	Information source
Type of solar power system	[add value]	-	[add name of info source/document]
Number of modules	[add value]	-	[add name of info source/document]
Capacity of each module	[add value]	kW	[add name of info source/document]
Total project capacity	[add value]	MW	[add name of info source/document]
Estimated load factor	[add value]	%	[add name of info source/document]
Estimated power generation	[add value]	MWh/year	-
Estimated lifetime of project	[add value]	years	[add name of info source/document]

A.4.1. Identification of the small-scale CPA:

CPA unique identification code (as described in section A.4.4.1. of the PoA-DD): [Add three letter country code][add 4 digit project number]

A.4.1.1. Host Party:

[Add host country of CPA]

A.4.1.2. Geographic reference or other means of identification allowing the unique identification of the small-scale CPA (maximum one page):

Table 2: CPA identification Information

CPA identification code	[Add three letter country code][add 4 digit project number]
CPA location	
Address	[Add address of CPA or if not available description of proximity to nearest village]
Geographical coordinates	[Add GPS coordinates, latitude and longditude]
Implementing entity	
Address	[Add address of implementing entity]
Telephone	[Add telephone number of implementing entity]
Email	[Add email address of implementing entity]
Contact person	[Add contact person, if applicable, representing implementing entity]

[Add map of area where CPA is located]

Figure 2: Map of [add CPA title] project

A.4.2. Duration of the small-scale CPA:

A.4.2.1. Starting date of the small-scale CPA:

[Add start date of the CPA][3]

A.4.2.2. Expected operational lifetime of the small-scale CPA:

[Add number of years] years, [Add number of months] months

[3] [Add nature of the start date event and the appropriate reference]

A.4.3. Choice of the crediting period and related information:

[] Fixed crediting period

[] Renewable crediting period

A.4.3.1. Starting date of the crediting period:

[Add expected date of commissioning of CPA]

A.4.3.2. Length of the crediting period, first crediting period if the choice is renewable CP:

[] 10 years fixed

[] 7 years renewable twice

NOTE: Please note that the duration of crediting period of any *CPA* shall be limited to the end date of the *PoA* regardless of when the CPA is added.

A.4.4. Estimated amount of emission reductions over the chosen crediting period:

Table 3: Emission reductions estimate

Years	Annual Estimation of Emission Reduction in $tCO2_e$
Year 1	[]
Year 2	[]
Year 3	[]
Year 4	[]
Year 5	[]
Year 6	[]
Year 7	[]
[Add Year 8 if appropriate]	[]
[Add Year 9 if appropriate]	[]
[Add Year 10 if appropriate]	[]
Total emission reductions	[]
Total number of crediting years	[]
Annual average estimated emission reductions over the crediting period	[]

A.4.5. Public funding of the CPA:

[Option 1:] The [add CPA title] CPA has received no public funding.

[Option 2:] The [add CPA title] CPA has received public funding [provide explanation, using Annex 2 if necessary]

A.4.6. Information to confirm that the proposed small-scale CPA is not a de-bundled component

De-bundling checks have been performed as described in section A.4.4.1. of the PoA-DD, in accordance with Annex 13, EB 54 *Guidelines on Assessment of De-Bundling for SSC Project Activities*.

The DOE has been provided with all relevant information regarding the de-bundling checks and has confirmed that there is no existing project activity that is both:

a) Implemented by the same entity or managed by the same CME as the proposed CPA; and
b) Located within 1km of the proposed CPA, as measured from the closest point

[Add specific information regarding de-bundling if necessary]

A.4.7. Confirmation that small-scale CPA is neither registered as an individual CDM project activity or is part of another Registered PoA:

The [add CPA title] CPA has been cross checked with the electronic databases described in section A.4.4.1. of the PoA-DD to confirm that it is neither registered as an individual CDM project activity or is part of another Registered PoA.

In addition to this, the CPA implementing entity has entered into a contractual arrangement with the CME that explicitly forbids the implementing entity to register the [add CPA title] CPA as an individual CDM project activity or to include the CPA in another PoA.

All relevant documentation has been provided to the DOE.

SECTION B. Eligibility of small-scale CPA and Estimation of emissions reductions

B.1. Title and reference of the Registered PoA to which small-scale CPA is added:

Small Scale Grid-connected Solar Power Programme [add UNFCCC project reference code]

B.2. Justification of the why the small-scale CPA is eligible to be included in the Registered PoA :

The [add CPA title] CPA is eligible to be included in the Small Scale Grid-connected Solar Power Programme as it fulfils the eligibility requirements set out in section A.4.2.2. of the PoA-DD.

Table 4: PoA eligibility requirements[4]

Eligibility requirement	Justification
Either: (a) Install a new solar power plant at a site where there was no solar power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition (increase in the installed power generation capacity of an existing solar power plant); (c) Involve a retrofit (repair or modification of an existing solar power plant with the purpose of improving efficiency or performance without adding additional solar power plants or units); or (d) Replacement or retrofit of an existing solar plant with a new solar power plant or unit with generation capacity greater than or equal to the redundant unit(s)	The [add CPA title] CPA installs [Add CPA specific information]
Be located within the geographical boundary as stated in section A.4.1.2 of the PoA DD	The [add CPA title] CPA is located in [add host country]. The geographical boundary of the PoA covers the country of [add host country] as stated in section A.4.1.2. of the PoA-DD
Comply with all testing and certification requirements for solar power technologies in the relevant host country	[Add CPA specific information]
Either: (a) Supply electricity to a national/regional grid; or (b) Supply electricity to an identified consumer via national/regional grid through a contractual arrangement	The [add CPA title] CPA supplies electricity to [Add CPA specific information]
For greenfield projects, have a total installed capacity of less than or equal to 15MW	[Add CPA specific information]
If the CPA has both solar power and non-solar power components, the eligibility limit of 15MW shall apply only to the solar power component	[Add CPA specific information]
If the CPA involves a capacity addition then the added capacity shall not exceed 15MW and should be physically distinct from the existing solar power units; in the case of replacement or retrofit, the total output of the replaced or retrofitted solar power units shall not exceed 15MW	[Add CPA specific information]
If multiple sites are included under a single CPA,	[Add CPA specific information]

[4] Eligibility criteria will be updated as necessary in accordance with section III B "Requirements for updating eligibility criteria" (para 14-18) of the *Standard for the Development of Eligibility Criteria for the Inclusion of a Project Activity as a CPA under the PoA, version 01.0, Annex 3, EB 63.*,

all 15MW capacity constraints above refer to the aggregate capacity of all of the installations included	
Pass the double counting checks as detailed in section A.4.4.1 of the PoA DD	The double counting checks have been performed for the [add CPA title] CPA as described in section A.4.4.1 of the PoA-DD.
Pass the de-bundling checks as detailed in section A.4.4.1 of the PoA DD	The [add CPA title] CPA is not a de-bundled component of a large scale project activity as described in section A.4.6. above [Add further information if necessary]
A CPA will not be eligible for inclusion in the PoA if any of the energy generating equipment employed by the CPA has been transferred from another activity	The [add CPA title] CPA does not employ any energy generating equipment that has been transferred from another activity [Add further information if necessary]
Be in full compliance with all relevant host country laws, regulations and industry standards including undertaking local stakeholder consultation, environmental impact analysis and project licencing	The [add CPA title] CPA is in compliance with all relevant host country laws, regulations and industry standards. [Add further information if necessary]
Have its start date (as defined in the CDM Glossary of Terms, version 07) falling after the start of validation of the PoA, verified by documentary evidence	The start date of the [add CPA title] CPA is [add CPA start date], which is after [add PoA start date of validation] - the start date of validation of the PoA [Add further information if necessary]
Demonstrate additionality as detailed in section E.5 of the PoA-DD and section B.3. of the specific CPA DD	Additionality has been demonstrated in accordance with Guidelines on the demonstration of additionality of small-scale project activities, Version 9, EB68, Annex 27. [Add further information if necessary]
In the case where public funding it used, not result in a diversion of any official development assistance, as detailed in section A.4.5 of the PoA DD	The [add CPA title] CPA does not result in a diversion of any official development assistance. [Add further information if necessary]
Have a crediting period that does not exceed the end date of the PoA (on 06/12/2039)	[Add CPA specific information]
Fulfil the double accounting check to avoid the case of including a new CPA that has been already registered either as a CDM project activity or as a CPA of another PoA	The [add CPA title] fulfils the double counting checks and has not been registered either as a CDM project activity or as a CPA of another PoA

B.3. Assessment and demonstration of additionality of the small-scale CPA , as per eligibility criteria listed in the Registered PoA:

In accordance with Guidelines on the demonstration of additionality of small-scale project activities, Version 9, EB68, Annex 27, project types that are explicitly listed in the positive list of grid-connected renewable electricity generation technologies are automatically defined as additional without further documentation of barriers.

Grid-connected solar power technologies up to 15MW of installed capacity are included in the positive list and are therefore defined as additional.

For the purpose of clarification, it is confirmed that the [add CPA title] CPA satisfies the following three conditions to be on the positive list:

Table 5: Positive list requirements

Condition	Satisfied?
i) Is the CPA installing solar power technology? (photovoltaic or solar thermal electricity generation)	YES
ii) Is the CPA grid-connected?	YES
iii) Is the CPA installing less than or equal to 15MW of generation capacity?	YES

The [add CPA title] CPA is therefore additional in accordance with Guidelines on the demonstration of additionality of small-scale project activities, Version 9, EB68, Annex 27.

B.4. Description of the sources and gases included in the project boundary and proof that the small-scale CPA is located within the geographical boundary of the registered PoA.

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. The greenhouse gases and emission sources included or excluded from the project boundary are shown in Table 6 below.

Table 6: Breakdown of emission sources

	Source	Gas	Included?	Justification/Explanation
Baseline	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
Project activity	CO_2 emissions from combustion of fossil fuels required to	CO_2	[Yes for solar thermal, No for PV]	[Main emission source for solar thermal, Zero for PV]

	operate the power plan	CH_4	No	[Minor emission source for solar thermal, Zero for PV]
		N_2O	No	[Minor emission source for solar thermal, Zero for PV]

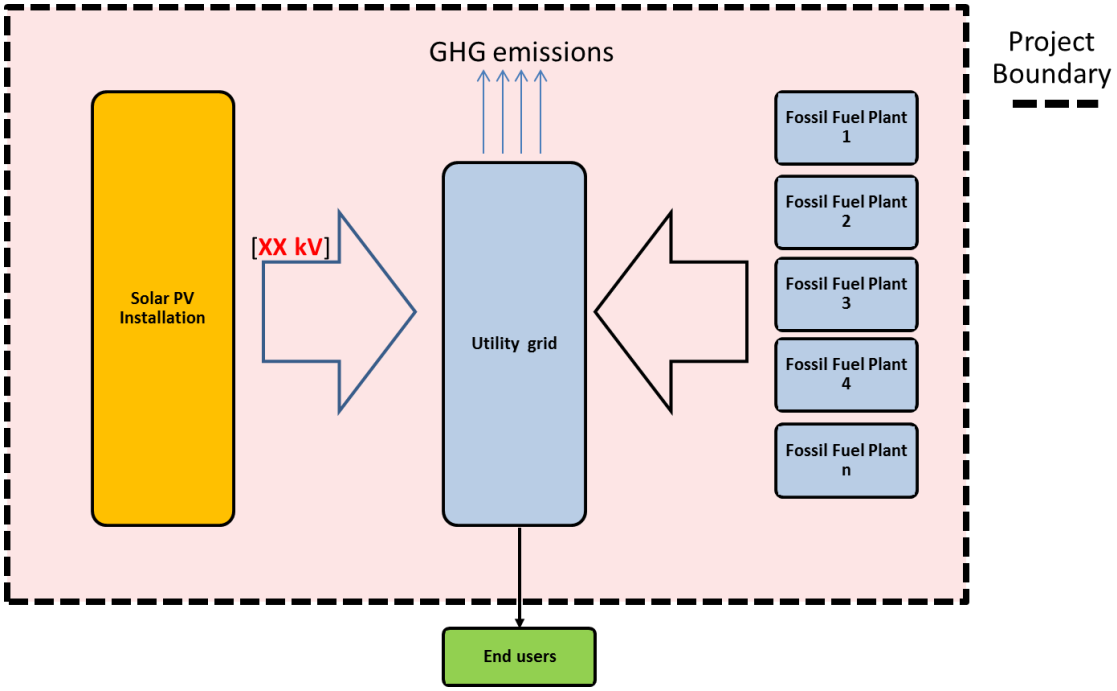

Figure 1: Project boundary for the SSC-CPA

B.5. Emission reductions:

B.5.1. Data and parameters that are available at validation:

Data / Parameter:	**$EF_{CO2,grid,y}$**
Data unit:	tCO_2/MWh
Description:	Combined margin CO2 emission factor for grid-connected power generation in [name of grid system] grid, in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []

Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system"
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**$NCV_{i,y}$**
Data unit:	GJ/tonne
Description:	The net calorific value (energy content) for fossil fuel type i in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**$EF_{CO2,i,y}$**
Data unit:	tCO2/GJ
Description:	CO2 emission factor for fuel i in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**FCi,m,y**

Data unit:	tonnes
Description:	Amount of fossil fuel type i consumed by power plant unit m in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**EGm,y**
Data unit:	MWh
Description:	Net quantity of electricity delivered to the grid by power plant unit m in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**$EF_{grid,BM,y}$**
Data unit:	tCO2/MWh
Description:	Build margin CO2 emission factor for the project electricity system in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*

description of measurement methods and procedures actually applied :	
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

Data / Parameter:	**$EF_{grid,OM,y}$**
Data unit:	tCO2/MWh
Description:	Operating margin CO2 emission factor for the project electricity system in year y
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	As per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Any comment:	Detailed data and calculations provided in Annex 3 and in supplementary spread sheet

[For retrofit/capacity addition projects only]

Data / Parameter:	**$EG_{historical}$**
Data unit:	MWh/y
Description:	Annual average historical net electricity generation delivered to the grid by the existing renewable energy plant that was operated at the site prior to the implementation of the project activity
Source of data used:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures	Measured by electricity meters

actually applied :	
Any comment:	Minimum 3 years of operating data. Detailed data provided in supplementary spread sheet

[For retrofit/capacity addition projects only]

Data / Parameter:	$\sigma_{historical}$
Data unit:	MWh/y
Description:	Standard deviation of the annual average historical net electricity generation delivered to the grid by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity
Source of data used:	Calculated from the data used to establish $EG_{historical}$ SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1*
Value applied:	SSC-CPA to apply the value for the relevant grid as per the "Tool to calculate the emission factor for an electricity system" *version 02.2.1* []
Justification of the choice of data or description of measurement methods and procedures actually applied :	Parameter to be calculated as the standard deviation of the annual generation data used to calculated $EG_{historical}$ for retrofit or replacement project activities
Any comment:	Minimum 3 years of operating data. Detailed data provided in supplementary spread sheet

B.5.2. Ex-ante calculation of emission reductions:

Baseline emissions

The [add CPA title] CPA is a [greenfield][retrofit][capacity addition] project.

[For Greenfield sites]

The baseline emissions (BE_y) for a greenfield site are calculated as the product of the expected power generation of project ($EG_{BL,y}$) and the grid emissions factor ($EF_{CO2, Grid,y}$):

$$BE_y = EG_{BL,y} * EF_{CO2, Grid,y}$$

Where:

BE_y	Baseline Emissions in year y (tCO_2e)
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{CO2, Grid,y}$	CO2 emission factor of the grid in year y (tCO_2/MWh)

The net electricity supplied to the grid by the project activity per annum ($EG_{BL,y}$) is estimated to be []MWh.

The baseline emissions are therefore calculated to be:

BE_y = [add estimated net generation delivered to the grid annually] * [add grid emissions factor] = [add result] tCO_2e

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[For retrofit/capacity addition projects]
The baseline scenario for retrofit or replacement projects involves the continuing operation of the existing power plant.

The baseline emissions ($BE_{retrofit,CO2,y}$) are calculated as follows:

$$BE_{retrofit/capacity\ addition,CO2,y} = EG_{BL,retrofit/capacity\ addition,y} * EF_{CO2,\ grid,\ y}$$

Where:

$$EG_{BL,retrofit/capacity\ addition,y} = EG_{PJ,faciltiy,y} - (EG_{historical} + \sigma_{historical})$$

$EG_{BL,retrofit,y}$ = 0 on or after the point in time when the existing equipment would need to be replaced in any case in the absence of the project activity.

Where:

$BE_{retrofit/capacity\ addition,CO2,y}$	The baseline emissions in year y (tCO_2)
$EG_{BL,retrofit/capacity\ addition,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EG_{PJ,faciltiy,y}$	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)
$EG_{historical}$	Annual average historical net electricity generation by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh) - minimum of 3 years of historical generation data.
$\sigma_{historical}$	Standard deviation of the annual average historical net electricity generation by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity (MWh)

$$BE_{retrofit/capacity\ addition,CO2,y} = EG_{PJ,faciltiy,y} - (EG_{historical} + \sigma_{historical}) * EF_{CO2,\ grid,\ y}$$

Therefore:

$BE_{retrofit/capacity\ addition,CO2,y}$ = [add estimated net generation delivered to the grid annually by the project plant/unit] - ([add annual average historical net electricity generation by the existing renewable energy plant] + [add standard deviation of the annual average historical net electricity generation by the existing renewable energy plant]) * [add grid emissions factor] = [add result] tCO_2e

Project emissions

The [add CPA title] CPA [uses][does not use] supplementary fossil fuels to generate electricity.

[For CPAs that do not use supplementary fossil fuels]
Therefore project emissions are zero.

[For CPAs that use supplementary fossil fuels]
The [add CPA title] CPA utilises some supplementary fossil fuels in operation.

CO_2 emissions from the combustions of these supplementary fossil fuels is accounted for as project emissions $PE_{FF,y}$.

$PE_{FF,y}$ has been calculated as per the latest version of the "Tool to calculate project leakage or CO2 emissions from fossil fuel combustion" (Version 02).

Therefore, project emissions are calculated as follows:

$PE_y = PE_{FF,y}$

Where:

PE_y	Project emissions in year y (tCO_2e/y)
$PE_{FF,y}$	Project emissions from fossil fuel consumption in year y (tCO_2/y)

Therefore, project emissions equal:

PE_y= [add result of $PE_{FF,y}$ calculation] tCO_2e/y

Emission reductions

$ER_y = BE_y - PE_y$

Where:

ER_y	Emission reductions in year y (tCO_2e/y)
BE_y	Baseline emissions in year y (tCO_2e/y)
PE_y	Project emissions in year y (tCO_2e/y)

ER_y = [add baseline emissions] - [add project emissions] = [add result] tCO_2e/y

B.5.3. Summary of the ex-ante estimation of emission reductions:

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Year	Estimation of project activity emissions (tCO_2e)	Estimation of baseline emissions (tCO_2e)	Estimation of leakage (tCO_2e)	Estimation of overall emission reductions (tCO_2e)
Year 1	[]	[]	-	[]
Year 2	[]	[]	-	[]
Year 3	[]	[]	-	[]
Year 4	[]	[]	-	[]
Year 5	[]	[]	-	[]
Year 6	[]	[]	-	[]
Year 7	[]	[]	-	[]
[Add Year 8 if appropriate]	[]	[]	-	[]
[Add Year 9 if appropriate]	[]	[]	-	[]
[Add Year 10 if appropriate]	[]	[]	-	[]
Total (tCO_2e)	[]	[]	-	[]

B.6. Application of the monitoring methodology and description of the monitoring plan:

B.6.1. Description of the monitoring plan:

Data / Parameter:	**$EG_{BL,y}$**
Data unit:	MWh/y
Description:	Quantity of net electricity generation supplied to the grid in year y
Source of data to be used:	Project activity site
Value of data applied for the purpose of calculating expected emission reductions in section B.5	-
Description of measurement methods and procedures to be applied:	Measured using electricity meters Monitoring frequency to be continuous and at least monthly recording
QA/QC procedures to be applied:	Cross check measurement results with records for sold electricity
Any comment:	This value includes all units, existing and new in the case of capacity addition / retrofit projects

In the case of supplemental fuel consumption as part of a project activity, project or leakage CO_2 emissions parameters will be monitored as follows:

Data / Parameter:	**$FC_{i,j,y}$**
Data unit:	Mass or volume unit per year (e.g. ton/yr or m^3/yr)
Description:	Quantity of fuel type i combusted in process j during the year y
Source of data to be used:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Value of data applied for the purpose of calculating expected emission reductions in section B.5	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Description of measurement methods and procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
QA/QC procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Any comment:	Applicable to CPAs which use supplementary fossil fuels for electricity generation

Data / Parameter:	**$W_{C,i,y}$**
Data unit:	tC/mass unit of the fuel
Description:	Weighted average mass fraction of carbon in fuel type i in year y
Source of data to be used:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Value of data applied for the purpose of calculating expected emission reductions in section B.5	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Description of measurement methods and procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
QA/QC procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Any comment:	Applicable to CPAs which use supplementary fossil fuels for electricity generation

Data / Parameter:	**$\rho_{i,y}$**
Data unit:	Mass unit/volume unit
Description:	Weighted average density of fuel type i in year y

Source of data to be used:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Value of data applied for the purpose of calculating expected emission reductions in section B.5	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Description of measurement methods and procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
QA/QC procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Any comment:	Applicable to CPAs which use supplementary fossil fuels for electricity generation

Data / Parameter:	**$NCV_{i,y}$**
Data unit:	GJ per mass or volume unit (e.g. GJ/m³, GJ/ton)
Description:	Weighted average net calorific value of fuel type i in year y
Source of data to be used:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Value of data applied for the purpose of calculating expected emission reductions in section B.5	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Description of measurement methods and procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
QA/QC procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Any comment:	Applicable to CPAs which use supplementary fossil fuels for electricity generation

Data / Parameter:	**$EF_{FF,y}$**
Data unit:	tCO_2/tonne
Description:	Emission factor of fossil fuel consumed in year y
Source of data to be used:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Value of data applied for the purpose of calculating expected emission reductions in section B.5	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Description of	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel

measurement methods and procedures to be applied:	combustion" (Version 02)
QA/QC procedures to be applied:	As per the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion" (Version 02)
Any comment:	Applicable to CPAs which use supplementary fossil fuels for electricity generation

The CME will work with the CPA implementing entity to design and implement the following monitoring plan.

1. Monitoring plan objective and organisation

The CPA implementing entity is responsible for the implementation and management of the monitoring plan. The CME will qualify and assist with the monitoring plan. The CPA implementing entity will submit all relevant data to the CME that is required for the periodic verification of emission reductions. To ensure all data is reliable and transparent, the CPA will establish quality assurance and quality control (QA &QC) procedures to control and manage data reading, recording, auditing and archiving and to ensure the quality of all relevant project documents.

The QA&QC procedures include an outline of the responsibilities of each CPA employee with respect to the project activity and associated monitoring activities. Document templates and step by step process steps for compiling and storing data as well archiving in a clear, accurate and transparent manner are also included. The communication plan between the CPA implementing entity and the CME are clearly outlined.

2. Monitoring data

The CPA implementing entity will monitor the following data parameters, as detailed in section E.7.1. of the PoA-DD:

i) Net electricity generation supplied to the grid by the solar power plant [including existing solar power units in the case of a capacity addition]

[Applicable only to CPAs that utilise supplementary fossil fuels resulting in positive project emissions:

ii) Quantity of fossil fuel utilised (mass or volume)
iii) Mass fraction of carbon in fossil fuel utilised
iv) Density of fossil fuel utilised
v) Net calorific value of fossil fuel utilised]

Net electricity generation supplied to the grid shall be recorded on an at least monthly frequency, with all other data recorded as often as is practically possible.

Metering data will be, where possible, cross referenced with invoice data – for electricity generation and/or fossil fuel purchase.

All data will be compiled and archived by the CPA implementing entity, and will be submitted to the CME both periodically and upon request.

Monitoring data will subsequently be submitted by the CME to the DOE for periodic verifications of emission reductions.

The CME will electronically store all monitoring data until 2 years after the end of the crediting period outlined in section A.4.2.

[insert illustration of the CPA monitoring plan and data metering points]
[insert illustration of the CDM monitoring management structure/responsibilities]

3. Quality assurance and quality control

The CME has a dedicated operations team to ensure the full implementation of the monitoring plan to ensure quality assurance throughout the crediting period and beyond. This operations team will provide constant support to the CPA implementing entity to ensure that all activities adhere to CPA QA&QC procedures and that the monitoring plan is fully implemented.

As part of the QA&QC procedures for each CPA, the CPA implementing entity is responsible for the maintenance and calibration of all metering devices to the set industry standard in [add CPA host country]. The CME will request from the implementing entity official certification that all metering devices are compliant with the set industry standard, and this shall be presented to the DOE.

All metering devices will be recalibrated and inspected periodically by qualified personnel, in accordance with the set industry standard. This will happen at least once per 3 years.

[Add any additional monitoring information if necessary]

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

☐ Please tick if this information is provided at the PoA level. In this case sections C.2. and C.3. need not be completed in this form.

Analysis of the environmental impacts for CPAs will be provided at the CPA level to allow for host Party laws/regulations which affect each CPA.

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

[Add description of environmental impacts]

C.3. Please state whether an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA), in accordance with the host Party laws/regulations:

[Add information on requirements of CPA host country for EIA]

SECTION D. Stakeholders' comments

>>

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:

☐ Please tick if this information is provided at the PoA level. In this case sections D.2. to D.4. need not be completed in this form.

Information on local stakeholder comments will be provided at CPA level.

D.2. Brief description how comments by local stakeholders have been invited and compiled:

[Add information on invitation procedure for local stakeholder comments]

D.3. Summary of the comments received:

[Add details of any comment received]

D.4. Report on how due account was taken of any comments received:

[Add details on how due account was taken for any comments received]

Annex 1

CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE SMALL-SCALE CPA

Organization:	
Street/P.O.Box:	
Building:	
City:	
State/Region:	
Postfix/ZIP:	
Country:	
Telephone:	
FAX:	
E-Mail:	
URL:	
Represented by:	
Title:	
Salutation:	
Last Name:	
Middle Name:	
First Name:	
Department:	
Mobile:	
Direct FAX:	
Direct tel:	
Personal E-Mail:	

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

See section A.4.5.

Annex 3

BASELINE INFORMATION

In accordance with Methodological Tool – *Tool to calculate the emission factor for an electricity system, version 02.2.1, Annex 19, EB 63*, the grid emission factor has been calculated as follows:

The detailed calculation of the emission factor is provided in the supplementary spread sheet.

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) emissions factor.

Step 1: Identify the relevant electricity systems
The relevant electricity system is [add name of grid] (hereinafter referred to as "[add name of grid]"), which comprises the following plants and types:

Table A: Cohort of power stations comprising the [add name of grid] Grid

Plant no.	Power station	Installed capacity (MW)	Generation technology	Energy source / Fuel type
1	[]	[]	[]	[]
2	[]	[]	[]	[]

Data source:[]

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)
Only grid power plants are included in the calculation.

Step 3: Select a method to determine the operating margin (OM)

In accordance with Methodological Tool – *Tool to calculate the emission factor for an electricity system, version 02.2.1, Annex 19, EB 63*, the operating margin ($EF_{grid,OM,y}$) is calculated using one of the following methods:

(a) Simple OM
(b) Simple adjusted OM
(c) Dispatch data analysis OM
(d) Average OM

[Add OM approach choice information]

Table B: Calculation of LCMR net electricity generation

Plant no.	Power station	Generation technology	LCMR (Yes / No)	Net electricity generation (EGm,y) (MWh)				
				2006	2007	2008	2009	2010
1	[]	[]	[]	[]	[]	[]	[]	[]
2	[]	[]	[]	[]	[]	[]	[]	[]
Total electricity generation				[]	[]	[]	[]	[]
Average annual generation				[]				
Low cost/must run generation				[]	[]	[]	[]	[]
Average annual low cost/must run generation				[]				

Plant no.	Power station	Generation technology	LCMR (Yes / No)	Net electricity generation (EGm,y) (MWh)				
				2006	2007	2008	2009	2010
% of low cost/must run				[]				

Data source:[]

As shown in Table B, LCMR resources constituted approximately []% of average annual electricity generation for the grid over the last five (5) years. [Add OM approach choice information]

Step 4: Calculate the operating margin emission factor according to the selected method
The Simple OM is calculated *ex ante*, using a 3-year generation-weighted average based on the most recent data available at the time of submission of the SSC-CPA DD to the DOE for validation.

The detailed calculation of the Simple OM is contained in the supplementary spread sheet.

$EF_{grid,OMsimple,y}$ = [] tCO_2/MWh.

Step 5: Calculate the build margin (BM) emission factor

The BM ($EF_{grid,BM,y}$) is determined using the method set out in Methodological Tool – *Tool to calculate the emission factor for an electricity system, version 02.2.1, Annex 19, EB 63*.

5a: Identify the 5 most recent power units, excluding CDM ($SET_{5\text{-}units}$)

Table C: The 5 units that started to supply electricity most recently to the grid include:

Commissioning order	Plant No.	Power Station	Commissioning date	CDM	Electricity generation ($EG_{m,y}$)
1	[]	[]	[]	[]	[]
2	[]	[]	[]	[]	[]
3	[]	[]	[]	[]	[]
4	[]	[]	[]	[]	[]
5	[]	[]	[]	[]	[]
Annual electricity generation ($AEG_{SET\text{-}5\text{-}units}$)					[]

5b: Identify the units that comprise at least 20% of the system generation, excluding CDM ($SET_{\geq 20\%}$)

[Add information]

5c: Select the set of power units that comprises the larger annual generation

[Add information]

5d: Is there at least one power unit older than 10 years in the set?

[Add information]

5e: Exclude power units older than 10 years and include power units registered in the CDM

[Add information]

5f: Does the set comprise at least 20% of generation?

[Add information]

5g: Include power units older than 10 years until the set comprises 20% of generation

[Add information]

The detailed calculation of the BM is contained in the supplementary spread sheet.

$EF_{grid,BM,y}$ = []tCO_2/MWh.

Step 6: Calculate the combined margin emissions factor

The combined margin (CM) emissions factor ($EF_{grid,CM,y}$) is calculated using the Weighted average CM method, Option A and equation (14) of the tool, as follows:

Since the project activity is a solar power generation project activity, the values w_{OM} = 0.75 and w_{BM} = 0.25 are utilised.

The detailed calculation of the CM is contained in the supplementary spread sheet.

$EF_{grid,CM,y}$ = []tCO_2/MWh.

Annex 4

MONITORING INFORMATION

[Add additional monitoring information if necessary]